A PREHISTORY OF SLAVIC
THE HISTORICAL PHONOLOGY OF COMMON SLAVIC

BY

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PREFACE

The first incentive to write this book came in 1954 when I was giving a course at Columbia University under the traditional name "Slavic comparative phonology and morphology". The incentive was twofold. First, it was embarrassing not to be able to refer students to any comprehensive and up to date English textbook in the field. Second, I did not want to give merely one more comparative course based on phonetic correspondences alone without considering the dynamics of linguistic developments. Instead, it was my intention to attempt a coherent and systematic **history** of Common Slavic from its formation to its ultimate dissolution into separate Slavic languages. Such an historical treatment did not exist in any language at the time. In fact, it does not yet exist in spite of some recent attempts[1].

A new book was needed to fulfill two demands. On the one hand, a textbook requiring a solid and sober presentation of the knowledge acquired to date, with clear statements and a limited number of reliable examples; it should also consider certain debatable questions but without being too subjective or introducing too many still unverfied hypotheses. On the other hand, an historical presentation demanding a more daring and more personal approach, a critical reassessment of many generally accepted facts and views, which, again, to be convincing should be buttressed by all available examples. The two tasks seemed incompatible.

They are to a great extent incompatible indeed and if one tries combining them, one is faced with imminent defeat. The experience of scholars in many fields has shown that combining a textbook and a research study under one cover is unfeasible. But we never learn much from the experience of our predecessors, – the objective and subjective motives for both approaches have been too strong, and, of course, both technically and psychologically it has been impossible to write two books on the same subject, a textbook and a research study.

Aware of the drawbacks, I have decided to try to avert or neutralize the disadvantages of writing from two different points of view by arranging chapters of my book in a special way.

Wherever the material permits, each chapter is divided into three main parts. In the first section the general statement and the principal facts are presented. As a rule this section is based on more or less generally accepted views;

[1] When the work on this book was near completion, *Sravnitel'naja grammatika slavjanskix jazykov* by S. Bernštejn was published claiming to be a Common Slavic historical phonology. It is an interesting endeavor but it did not live up to its own program. See 1, 7.

if anything personal is introduced, it is mainly the omission of certain views which are widespread, even hackneyed, but still not true in the author's opinion. The first section of each chapter, if read alone, is intended to give the student a minimum knowledge of the most important facts in the history of Common Slavic without immersing him in too many theoretical considerations, details and generalizations. This forms a bare outline of the history of Common Slavic but gives a general idea of the principal events.

The final section of each chapter (entitled Conditions and Effects) concentrates on clarifying the conditions of the changes in question, their effects with regard to the language as a whole, and any resulting consequences and repercussions. By its very nature such a section must be speculative and hypothetical: its main purpose is to offer material for discussion in establishing connections among individual changes, in reconstructing as much as possible lines of development.

The middle part of each chapter is divided into separate sections devoted to the time and place of the change under scrutiny: to details concerning the change outlined in the first section and tentatively explained in the last section. For those interested only in the developments of major importance, the middle sections may be skipped. For those skeptical of any phonemically conditioned causality in sound changes, omission of the final sections would save much irritation and perplexity. Needless to say, in the author's opinion only the combination of all three parts of each chapter provides for an adequate knowledge and understanding of the phenomenon. But the intention was to try to make the book useful for various types of readers.

The attempt to make this book flexible (in composition, not in matters of principle or adequacy) has elicited some further peculiarities in its make-up: treatment of examples, use of etymologies, type of formulations, and attitude toward linguistic controversies.

A large number of examples usually annoys the beginning student. However, only a sufficient number of examples makes a statement convincing. Although these demands at first appeared mutually exclusive, it was possible to meet them both by concentrating the examples in each chapter in a special section which can be easily omitted, scanned, or studied thoroughly according to the reader's intentions and preference.

The examples are presented in two ways. Usually two or three examples are cited in full, i.e. with correspondences in all the Slavic and most non-Slavic Indo-European languages. For the reader who desires more factual data (e.g. an instructor teaching the course who needs examples other than those cited in full in the book) further examples are listed: however, these are taken from one Slavic language only, accompanied by a reference to etymological dictionaries wherein the reader will easily find under the corresponding entries any additional material he requires. This listing may also fulfill another task: without claiming to exhaust the data, it still gives some idea of the frequency of a certain phenomenon.

An exhaustive or nearly exhaustive series of examples was presented only

in the few cases when it was necessary to prove a new point of view by examining the entire body of pertinent data.

Since the emphasis of this book is on phonetic correspondences, word meanings are not given detailed treatment in the examples. If a word has several meanings, as a rule only its primary meaning or the meaning best suited to the given series of the etymological correspondences is cited.

Statements of historical phonology are based on etymologies. An incorrect etymology easily leads to erroneous generalizations concerning sound changes. Therefore extreme cautiousness in using etymologies is recommended. Etymologizing has always attracted authors of "comparative grammars". In this book I have tried to resist such temptation and to avoid indulging in my own etymologies. And since the most reliable etymologies, as is well known, were established a long time ago, it was necessary in most cases to follow them. Of the recent etymological dictionaries those of soberly conservative character were used as the main source of examples and basis for deducing general rules: Polish by F. Sławski, Indo-European by J. Pokorny, Lithuanian by E. Fraenkel and most of all Russian by M. Vasmer. The etymologies however were not used mechanically. They were rechecked and some improvements introduced. In particular, the "minor" (from the viewpoint of traditional Slavistics) languages were more widely used: Belorussian, Ukrainian, Sorbian, and Macedonian data were added wherever possible. Many inaccuracies in presenting the material of these languages were corrected. It cannot be said that all the etymologies used in this book are completely waterproof. Some are certainly debatable. None is to be taken for granted. But if a statement is advanced without reservations it means that this statement is at least buttressed by some relatively reliable etymologies.

If a non-Slavic language contiguous to Slavic had analogous developments these are cited. This does not necessarily imply that they were common with Slavic.

A peculiar, ambivalently "diplomatic" language has been fostered in many a book on the subject. The intention of the author of this book was not to elude responsibility by omitting the entangled problems or by resorting to vagueness. Wherever a problem concerned historical phonology of Slavic, explicit and precise formulations were sought, and all *i*-s were dotted. Only when the discussion might digress into other areas, e.g. morphology, psychology, or general history, was it found impossible to delve more deeply, and the formulations by necessity had to be general and not always specific enough. Otherwise, the author's conviction is that a vague statement is always sterile, whereas an erroneous but clear formulation rouses discussion and leads to a clarification of the problem. For the same reason the author tried wherever possible to suggest at least hypothetical explanations of the facts presented, even when a much less venturous attitude would be just to state that the situation is unclear or obscure. All hypotheses are verifiable by and against facts; with the approach systematically followed in this presentation one more criterion of primary importance appears: as the entire development is regarded a coher-

ent process, hypotheses find one of their justifications in the very degree of cohesion with which they fit into the general evolutional line. But hypotheses are hypotheses, and the author can by no means claim all his findings in this book as perdurable (although he hopes some are).

In certain cases the factual material we possess allows more than one solution. In such instances (e. g. preservation or not of length in the final long nasal diphthongs, treatment of the new rising pitch in Serbo-Croatian, etc.) both possibilties are pointed out, but only one has been followed in the subsequent presentation, one which may have been chosen to a certain extent arbitrarily.

While allowing for a certain degree of elusiveness in formulations, the unwritten laws of contemporary scholarly presentation most strongly censure repetition. In this book a great many possible repetitions have been avoided by systematic cross-reference. Unfortunately, the reader seldom follows such advice to consult other sections. Therefore on crucial points it was held preferable to indulge in some recapitulation, and on the whole repetitions in this book were considered to be a deliberate device of composition rather than an evil by definition. Recurrent examples, formulations, and charts serve as refrains or leitmotivs. The presence of redundancies is nowadays recognized as a beneficial necessity in language. In the author's opinion this applies to the organization of a book as well. The race toward extremes of economical and formula-like presentation becomes a burden to the reader and ultimately leads to the very opposite of its goal: strain in comprehension and obscurity in style and ideas. The real problem is how to find the optimum proportion of repetitiousness and economy.

Special care was taken not to use overly complex linguistic terminology which often seems like linguistic gibberish to the uninitiated and merely tends to frighten him away from the subject. As a rule speech sounds are characterized in the traditional "articulatory" terminology which, after all, can be easily reinterpreted acoustically or otherwise if one so wishes. The generic term *isogloss* is used to denote isophones, isomorphs, etc. In the mid-nineteenth century the future of linguistics was often regarded as joined in a marital bond with biology. This was later superseded by a psychological bond, which at present is being replaced by a mathematical union. The author of this book, without denying collaboration with any branch of science and humanities where it might be useful, is rather prone to stick to a linguistic linguistics. Hence, without going into too many refinements, this book still requires of the reader at least a minimum knowledge of terminology of general linguistics.

One of the main objections voiced by reviewers in discussing one of the best comparative phonologies of Slavic now available, that by A. Vaillant, was his failure to present and discuss, along with each particular problem, the opinions of other scholars, the so-called history of the question. After much deliberation, I decided basically to follow Vaillant's approach in this respect. The purpose of this book is to show the internal development of the phonological

system of Common Slavic, not the history of achievements and errors of linguists. This would be quite a different subject: a history of research in Slavic historical phonology, an important and interesting topic for a book still to be written. Yet in this book such a theme would be extraneous and would only divert the reader's attention from the principal subject.

Instead of presenting an history of research, it would be gratifying to label each sound change by the name of its discoverer. There is some tradition in that: Slavists speak of Zupitza's law (See 8, 9), Lidén's law (13, 5), Hirt's law (4, 6), de Saussure's law (4, 10). But the last mentioned example, perhaps the best known, shows the danger to which a student often exposes himself by using such labels. It is well known that the same law was established by Fortunatov at virtually the same time (1894–95). Hence the law is often cited under the compound name: Fortunatov and de Saussure's law. It is not so well known that two other scholars claim priority, too: there is evidence that Leskien and Mikkola, each working independently, taught this law before it was publicly discussed by de Saussure and Fortunatov. This applies to many other laws of Common Slavic phonology. Thus, it is not easy to find out who was the first to discover each rule governing Common Slavic phonological developments. Special research would be necessary, certainly exceeding the intentions of the author of this book.

Only in a few cases where there is no common consensus, was it necessary to refer briefly to linguistic controversies in order to give the reader a general idea of the existence of differing opinions and thus to proceed to that interpretation which seemed the most adequate to the facts and the general lines of Slavic phonological developments. There is one area in the history of Common Slavic which is very much in flux: accentology. Founded and elaborated by the Neogrammarians, it was fundamentally reevaluated by their successors in the fifties. Not only the walls of the Neogrammarian building are brought down but even the cornerstones are upturned. But the crumbling house – or is is just its site? – is still bitterly defended. It seemed unwise simply to join one of the two trends, iconolatry or iconoclasm. It was decided to start with the Neogrammarian approach; to confront it systematically, case after case, with facts; and to try to arrive at a more or less acceptable solution. While this approach at times makes the presentation lengthier and more difficult in that some notions are introduced only to be finally rejected (e.g. the new falling pitch), it has the advantage of makingthe reader acquainted with different views and immersing him in the greatest possible number of facts. To be sure, even then many a prosodic feature remains in question or suspended.

At least a partial compensation for the inevitable drawbacks of the accepted attitude towards the presentation (or rather non-presentation) of linguistic controversies is the selected but rather broad bibliography following each chapter. All the important linguistic controversies are reflected in this bibliography, and the interested reader may plunge into these waters. The bibliography as a rule covers the last seventy years (until the end of 1962, with only a few publications of 1963 included), but references to older publications

will be found in the items listed so that the reader may delve further back if he so desires. This bibliography does not include references to general courses. A list of such works will be found at the end of chapter 1, and it certainly would be superfluous to list them again.

Facts of minor importance were not eschewed in this book but emphasis was given to the main lines of regular sound changes. Consequently, irregular developments concerning isolated words, such as occasional (irregular) assimilations, dissimilations, haplologies, and blendings were treated only insofar as they seemed to constitute deviations from general laws and only in order to ascertain the validity of the general law existing despite their presence. Otherwise they belong to etymology, not to the general history of the language.

In a word, this book is not a collection of new etymologies, nor an history of studies in the field. Its purpose, besides suggesting the solutions of many partial problems, is to contribute to the prehistory of Slavic as an historical discipline, and to attempt to present this prehistory as a logically and chronologically coherent whole, determining causes, order, and time of sound changes and establishing periods in the development of Common Slavic and the manner of its final disintegration. Therefore, its extra-Slavic material is, with some exceptions, second-hand. It is taken for granted as the building material for the construction of the edifice in which the author was interested.

Reconstruction of the history of Common Slavic has its limitations. There were certainly sound changes obliterated by later changes; these are irretrievable. There were also intermediate stages in those developments which may be tentatively assumed: e.g. we reconstruct the change of the palatovelar *k'* into *s*. There certainly were some intermediary stages in this development: *k'* could have changed first into *c'*, *c'* into *s'*, *s'* into *s*. But it is also possible that *k'* first yielded *č'*, then *š'*, and finally *s*. If these changes are, however, only a theoretical construct the possibility of their transitory existence is to be ignored. In this book, in general, the author has refrained from reconstructing such intermediary stages which left no direct factual evidence.

The author is aware of the fact that some of his assumptions are not sufficiently founded: they require a monographic elaboration impossible in the framework of this book. Specifically, these assumptions include a break between Indo-European and Slavic stress, negation of the Common Slavic character of *jers*, and a few other hypotheses. All are justified by their general participation in the Slavic developments, but they need more support from Indo-European evidence or evidence coming from post-Common-Slavic developments. The reader is not requested to take such assumptions for granted. Their purpose is rather to provoke discussion from which their acceptance or exclusion will hopefully be ascertained.

The time has come, in the author's conviction, for summing up the attainments of Slavic comparative studies, for synthesizing what has been done, and for outlining a new approach. However, a systematic presentation is always premature and the necessary details are never all clear. From that point of view any systematic presentation is an inevitable defeat. Perhaps a justi-

fication for such a presentation is that it focuses light on the author's weak points as well as on the failings of the research completed thus far and, by the same token, stimulates further studies which in turn will eventually destroy a great part of this synthetic construction. This is the dialectics of scholarly advancement: it is pityless and whatever is done is done to become but a fertilizer for the crops to come.

A final remark: this book is not going to be continued by a morphology of Common Slavic. The only logical sequels would be histories of the historically attested Slavic languages in their sound changes. This follows from the very concept of the book, – to be an history, – rejecting the justification for what is traditionally called "comparative grammar".

No one undertaking a synthetic characterization of the Slavic languages can be equally at home in each of them and have knowledge of (or shall we call it a feeling for ?) the semantic and stylistic nuances of every example cited. More than in any other subject, studies of this sort should pass under the review of specialists in each language involved. Alas, in our age of (often unnecessary) collective endeavors this method has never been applied to Slavic historical phonology. It proved to be unfeasible in preparing the manuscript of this book as well. Yet on certain specific questions I benefited from advice given to me by several of my colleagus: Peter Arumaa, Henrik Birnbaum, William Diver, James O. Ferrell, Josip Hamm, William E. Harkins, Olexa Horbatsch, Pavle Ivić, Valentin Kiparsky, Paavo Ravila, Gojko Ružičić, Michael Samilov, Edward Stankiewicz, Stig Wikander, Dean S. Worth, Alfred Zaręba (Mistakes in the book are naturally mine and not theirs). Oksana Chikalenko helped me substantially in proof reading and compilation of the indexes. Several institutions were of great assistance in the preparation of this book. A grant from the John Simon Guggenheim Memorial Foundation (1958) made it possible to complete the preliminary work on the project in a relatively short time. Technical work was facilitated by two grants from the Council for Research in the Humanities at Columbia University (1957, 1962). Finally, a subsidy from the American Council of Learned Societies (1964) made it possible to publish this book without resorting to a quite prohibitive price.

I am greatly indebted to all these persons and institutions.

Columbia University, May 1963

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ABBREVIATIONS USED

1. *In language and dialect names*:

Alb – Albanian Alt – Altaic arch – archaic Arm – Armenian AS – Anglo-Saxon Att – Attic Av – Avestan

Balt – Baltic Bav – Bavarian Bg – Bulgarian Br – Belorussian Bret – Breton

Ce (with a language name) – central (E.g. CeSk – Central Slovak) Ce – Celtic ChSl – Church Slavonic Cym – Cymric Cz – Czech Čak – Čakavian

Dalm – Dalmatian dial – dialectal Dor – Doric

E – East Eng – English Est – Estonian

Fe – Fennic Fi – Finnish

G – German Gaul – Gaulish Germ – Germanic Go – Gothic Gr – Greek

H – high Hi – Hittite Hung – Hungarian

I – Indian Icel – Icelandic IE – Indo-European Ill – Illyrian Ir – Irish Irn – Iranian It – Italian, Italic

Ka – Kashubian Kajk – Kajkavian Kar – Karelian

L – lower La – Latin Le – Lettish Li – Lithuanian LS – Lower Sorbian Lud – Lude

M – Macedonian M (with a language name) – middle (E.g. MG – Middle German[1]) Mo – modern Mong – Mongolian

N – North(ern) Ndl – Dutch Norw – Norwegian

O – old (E.g. OI – Old Indian) OCS – Old Church Slavonic Olon – Olonetz ON – Old Norse OPr – Old Prussian OS – Old Saxon Osm – Osmanli Osset – Ossetian

P – Polish Pb – Polabian Pers – Persian

R – Russian RChSl – Russian Church Slavonic Rm – Romanian Rom – Romance, Romanic

S – South(ern) SC – Serbo-Croatian SChSl – Serbian Church Slavonic Sk – Slovak Sl – Slavic Sn – Slovenian Snc – Slovincian So – Sorbian Sw – Swedish Štok – Štokavian

Thra – Thracian To – Tocharian Tu – Turkic

U – Ukrainian UFe – Ugro-Fennic US – Upper Sorbian

VLa – Vulgar Latin Vot – Vote

W – West(ern)

Žem – Žemaitian

2. *Grammatical terms*:

abl – ablative acc – accusative act – active adj – adjective adv – adverb aor – aorist

C – consonant comp – comparative cond – conditional

D – dental consonant dat – dative dim – diminutive du – dual

fem – feminine FP – falling pitch fut – future

[1] The traditional periodization of the history of (High) Germ is in OHG, sixth to eleventh century; MHG, eleventh to fifteenth century; MoHG, since the fifteenth century. For Hungarian correspondingly: OHung, 1000–1350; MHung, 1350–1600; MoHung, since 1600.

G – velar (guttural) consonant gen – genitive
H – laryngeal
imp – imperative impf – imperfect, imperfective ind – indicative inf – infinitive instr – instrumental
L – labial consonant loc – locative
masc – masculine med – medium
neut – neuter NFP – new falling pitch nom – nominative NRP – new rising pitch
opt – optative
part – participle pass – passive perf – perfect, perfective pl – plural plup – pluperfect PN – place-name pres – present tense pret – preterit pron – pronoun
S – sonant sg – singular subst – substantive syl – syllable, syllabic
v – verb V – vowel voc – vocative

3. *Titles of source texts referred to*:

Ass – Codex Assemanius (OCS, M recension)
Chr – Chronicle
Cloz – Glagolita Clozianus (OCS, M recension)
ES – Euchologium of Sinai (OCS, M recension)
FrFr – Freising Fragments (OSn)
Hyp – Codex Hypatianus (OR)
Izb – Izbornik (1073, 1076. OR)
KFr – Kiev Fragments (OCS, Moravian recension)
Laur – Laurentian Chronicle (OR)
Mar – Codex Marianus (OCS, Serbo-M recension)
Ostr – Ostromir's Gospel (OCS, OR recension)
Pr Chr – Primary Chronicle (OR)
PS – Psalter of Sinai (OCS, M recension)
Ps Pul – Psalter of Puławy (OP)
RPr – Russkaja pravda (OR)
Sa – Sava's Book (OCS, Bg recension)
SkBorGl – Passion and Encomium of SS. Boris and Gleb (OR)
Su – Codex Suprasliensis (OCS, Bg recension)
Uč i xitr – Učenie i xitrost' ratnago stroenija (Moscow, 1647)
VM – Life of St. Methodius (OCS)
Zo – Codex Zographensis (OCS, M recension)

4. *In bibliography (titles of periodicals and serials)*:

ASPh – *Archiv für slavische Philologie*, Berlin, 1876–1929.
BB – *Beiträge zur Kunde der indogermanischen Sprachen* (Bezzenberger Beiträge), Göttingen, 1877–1906.
BPTJ – *Biuletyn Polskiego Towarzystwa językoznawczego*, Kraków, 1927ff.
BSL – *Bulletin de la Société de linguistique*, Paris, 1868ff.
ČMF – *Časopis pro moderní filologii*, Prague, 1911ff.
DS – *Doklady i soobščenija Instituta jazykoznanija*, Moscow, 1951ff.
FN – Ministerstvo vysšego obrazovanija SSSR *Naučnye doklady vysšej školy, Filologičeskie nauki*, Moscow, 1958ff.
FS – Festschrift.
IF – *Indogermanische Forschungen*, Strassbourg-Berlin, 1892ff.
IJSLP – *International Journal of Slavic Linguistics and Poetics*, The Hague, 1959ff.
IOLJa – *Izvestija Akademii Nauk SSSR. Otdelenie literatury i jazyka*, Moscow-Leningrad, 1940ff.

IORJaS – *Izvestija Otdelenija russkogo jazyka i slovesnosti* of the Russian Academy. Petersburg, 1896–1932.

JF – *Južnoslovenski filolog*, Belgrade, 1914ff.

KS – AN SSSR, Institut Slavjanovedenija. *Kratkie soobščenija*, Moscow, 1951ff.

KZ – *Zeitschrift für vergleichende Sprachforschung auf dem Gebiete der indogermanischen Sprachen* (Kuhn's Zeitschrift). Berlin-Göttingen, 1852ff.

La – *Language*, Baltimore, 1925ff.

LF – *Listy filologické*, Prague, 1874ff.

LSc – *Linguistica Slovaca*, Bratislava, 1939–1948.

LSl – *Lud Słowiański*, Kraków, 1929–1938.

LP – *Lingua Posnaniensis*, Poznań, 1949ff.

MPKJ – *Materjały i prace Komisji językowej Akademii Umiejętności*, Kraków, 1904–1918.

MSL – *Mémoires de la Société linguistique de Paris*, Paris, 1868ff.

MSZ – Matica Srpska. *Zbornik za filologiju i lingvistiku*, Novi Sad, 1957ff.

PF – *Prace Filologiczne*, Warsaw, 1885–1937.

Rad – *Rad Jugoslavenske Akademije znanosti i umjetnosti*, Zagreb, 1867ff.

RES – *Revue des études slaves*, Paris, 1921ff.

RFV – *Russkij filologičeskij vestnik*, Warsaw, 1879–1918.

RS – *Rocznik slawistyczny*, Kraków. 1908ff.

RKJ – Lódzkie Towarzystwo Naukowe, *Rozprawy Komisji językowej*, Łódź, 1954ff.

SbMSl – *Sborník Matice Slovenskej*, Turč. Sv. Martin, 1922–39.

SbORJaS – *Sbornik Otdelenija russkogo jazyka i slovesnosti* of the Russian Academy, Petersburg, 1867–1928.

ScSl – *Scando-Slavica*, Copenhagen, 1954ff.

SEER – *The Slavonic and East European Review*, London, 1922ff.

SFPS – *Studia z filologii polskiej i słowiańskiej*, Warsaw, 1955ff.

Sl – *Slavia*, Prague, 1922ff.

SO – *Slavia Occidentalis*, Poznań, 1921ff.

Spis – *Spisanie na Bəlgarskata Akademija na Naukite*, Sofia, 1911–1950.

Spr – *Sprawozdania z czynności i posiedzeń Polskiej Akademii Umiejętności*, Kraków, 1890ff.

SR – *Slavistična revija*, Ljubljana, 1948ff.

TCLP – *Travaux du Cercle linguistique de Prague*, Prague, 1929–1939.

TIJa – AN SSSR, *Trudy Instituta jazykoznanija*, Moscow, 1952ff.

UZISl – AN SSSR, *Učenye zapiski Instituta slavjanovedenija*, Moscow, 1949ff.

VJa – *Voprosy jazykoznanija*, Moscow, 1952ff.

VSJa – AN SSSR, Institut slavjanovedenija, *Voprosy slavjanskogo jazykoznanija*, Moscow, 1954ff.

WSJB – *Wiener Slavistisches Jahrbuch*, Vienna, 1950ff.

WSl – *Die Welt der Slaven*, Wiesbaden, 1956ff.

ZIFV – Ukrajins'ka Akademija Nauk, *Zapysky Istoryčno-filolohičnoho viddilu*, Kiev, 1919–1931.

ZNTŠ – *Zapysky Naukovoho tovarystva im. T. Ševčenka*, Lviv, 1892ff.

ZSl – *Zeitschrift für Slawistik*, Berlin, 1956ff.

ZSPh – *Zeitschrift für slavische Philologie*, Leipzig, 1924ff.

ŽMNP – *Žurnal Ministerstva narodnogo prosveščenija*, SPetersburg, 1834–1917.

5. *In bibliography, names of cities*:

B – Belgrade   Br – Bratislava   C – Copenhagen   Göt – Göttingen   H – The Hague   Heid – Heidelberg   K – Kiev   Kr – Kraków   L – Leningrad   Lj – Ljubljana   M – Moscow   NY – New York   P – Paris   Pr – Prague   S – Sofia   SPB – StPetersburg, Petrograd   V – Vienna   W – Warsaw   Wr – Wrocław   Z – Zagreb

REMARKS ON TRANSCRIPTION AND PRONUNCIATION

Examples from languages using the Roman alphabet are cited as they are normally spelled. For other languages a customary Roman transliteration is used. The following remarks explain the pronunciation of those letters which differ from the normal Latin usage (without going into nuances and strict phonetic descriptions).

ą – P nasal *o*; Li – long *a* (originally nasal *a*)
ä – Sk [æ] (type of the vowel in English *back*)
ă – Rm (vowel of the type as in English *but*)
c – in Sl and Balt dental affricate (type *ts*); Rm – *č* before front vowels, *k* otherwise; OI – *č*
ch – P, So, Sk, Cz voiceless velar spirant [x]; Rm – *k*; OI aspirated *č*
cs - Hung voiceless hushing affricate [č]
cz – P *č*
ç – Alb *č*
č – voiceless hushing affricate (as in English *much*)
dh – Alb interdental voiced spirant (as in English *the*)
đ – SC strongly palatalized [ǯ]
ð – Go and Germ interdental voiced spirant (as in English *the*)
ę – P nasal *e*; Li – long *e* (originally nasal *e*)
ẹ - Sn closed *e*
ě – CS **ea*; So – diphthong of [iₑ] type; Cz – *e* with palatalization of the preceding consonant (after *m* [n'e], after other labials [je])
ė – R, Br ɔ; Li closed *e*
ë – Alb [ə]
ə – transliteration of Bg ъ (type of the vowel as in English *but*); in general, a reduced vowel (schwa)
g – Rm voiced hushing affricate before front vowels (type of English *j*); otherwise [g]
gj – Alb palatalized *d*
gy – Hung palatalized *d*
ģ – Le palatalized *g*
h – P, Sn, SC voiceless velar spirant [x]; also Rm, Alb
i – in P after a consonant before a vowel denotes palatalization of the preceding consonant
į – Li long *i* (originally nasal *i*)
î – Rm high-middle unrounded vowel (type of R ы)
j – palatal voiced spirant (type of English *y* as in *yacht*); in transliteration of R, Br, U, and Bg and in So spelling after a consonant before a vowel denotes palatalization of the preceding consonant; OI – voiced hushing affricate (type of English *j*): [ǯ]; Rm – [ž]
ķ – Le palatalized *k*
lj – SC palatalized *l* (historically also Sn)
ll – Alb back *l* (type of English *l* in *wall*)
ly – Hung *j* (historically palatalized *l*)
ļ – Le palatalized *l*

ł – P, So bilabial voiced spirant [w]
nj – SC palatalized *n* (also Sn historically); also Alb
ny – Hung palatalized *n*
ņ – Le palatalized *n*
ň – Cz palatal *n*
ó – P [u], US [u̥]
ô – Sk [ᵘo]
q – Alb palatalized *t*
rr – Alb *r* with strong vibration
rz – P [ž]
ŗ – Le palatalized *r*
ř – So voiceless hushing spirant (type of English *sh*); Cz voiced affricate [r͏ᶻ̌]
s – Hung voiceless hushing spirant (type of English *sh*)
sh – Alb [š]
sz – P [š]; Hung [s]
ş – Rm [š]
š – voiceless hushing spirant (type of English *sh*)
th – Alb voiceless interdental spirant (as in *thaw*)
ţ – Rm voiceless dental affricate (type of *ts*)
þ – Go voiceless interdental spirant (as in *thaw*)
ų – Li long *u* (originally nasal *u*)
ů – Cz long *u*
w – P, So [v]; Br [w] (Cyrillic *ў*)
x – voiceless velar spirant (type of the final consonant in G *Buch*); Alb – voiced dental affricate (type *dz* [ʒ])
y – R, Br, P, So high-middle unrounded vowel; U high front-middle unrounded vowel; Sk, Cz – *i* with no palatalization of the preceding consonant; Li – long *i*; OI – [j]
zh – Alb [ž]
zs – Hung [ž]
ż – P [ž]
ž – voiced hushing spirant (type of the middle consonant in *leisure*)
ʒ – voiced dental africate (type *dz*)
ǯ – voiced hushing affricate (type of English *j*)
Transcription of Slovencian is based, with minor simplifications, on F. Lorentz's *Slovinzische Grammatik* (SPB 1903), pp. 13–16.

Diacritical and other marks:

1. Over and beneath vowels:
˘ – brevity (in Rm see *ă* above)
¯ – length
´ – stress (R, Br, U, Pb, Bg, OI); length (Sk, Cz, Hung); long rising pitch (Sn, SC); long falling pitch (Li)
` – stressed brevity (Sn, Li); short rising pitch (SC); long falling pitch (Le)
ˆ – long falling pitch (Sn, SC); above two vowels together – a diphthongal pronunciation
˜ – long rising pitch (SC dialects of the area between the Sava and the Drava; Li, Le)
ˆ – glottal stop (Le)
̏ – short falling pitch (SC)
. – closed character of pronunciation (Sn *ọ*, *ẹ*)
, – nasalization (OCS *ǫ*, *ę*)
̯ – non-syllabic character

2. Over and beneath consonants:

ʹ – strong palatalization (of dorsal type); ʼ after a consonant – palatalization of alveolar type
ʽ – aspiration
. – retroflex articualtion (OI)

3. Other marks:

* – not attested reconstructed form
+ – erroneously reconstructed, never existing form
> – changes into
< – comes from
– zero (omission of a vowel or a consonant)
|, || – syllable boundary
// – phonemic transcription
[] – phonetic transcription
⟨⟩ – morphophonemic transcription

*

Pb examples are cited in Lehr-Spławiński's reconstruction (with Trubetzkoy's correction about the distribution of ə and ă); in parentheses a sample of the original spelling is quoted, but not all the spellings attested.

Sn intonations are based on M. Pleteršnik's *Slovensko-nemški slovar* (Ljubljana 1894–95) and M. Valjavec's "Glavne točke o naglasu kńiževne slovenštine" in *Rad* 132 (1897).

Le intonations are based on K. Mühlenbach and J. Endzelīn's *Latviešu valodas vārdnīca*, 1–6 (Chicago, 1953–56).

Verb classes refer to the classification of A. Leskien.

1. INTRODUCTION

1. General remarks: Slavic, Common Slavic. The subject of the book. 2. Methods of reconstruction. 3. Relative chronology. 4. Absolute chronology. 5. Some data from early Slavic history. 6. Motive forces of Slavic sound changes. 7. Approaches to historical phonology of Common Slavic.

1. General remarks: Slavic, Common Slavic. The subject of the book. Present-day Slavic is represented by twelve standard languages: Russian, Belorussian, Ukrainian, Polish, Lower Sorbian, Upper Sorbian, Slovak, Czech, Slovenian, Serbo-Croatian, Macedonian, and Bulgarian. To this list two dead Slavic languages may be added: Polabian (spoken in the area around Lüchow, Wustrow, and Dannenberg at the Elbe, south-east of Hamburg, till the mid-eighteenth century and recorded in the late seventeenth and early eighteenth centuries) and Old Church Slavonic. OCS was a language artificially created by the Greek missionaries Constantine (†869) and Methodius (†885) on the basis of Macedonian dialects for the church texts to be used primarily in Moravia. The original ninth-century texts are not extant. The oldest records available are from the late tenth and mainly the eleventh century; they are divided into several recensions containing features of the local dialects: Moravian, M, Bg, Serbian, Cz, and OR. Thus the same texts are the oldest records of these languages, outside of a few inscriptions and isolated Sl names and words preserved in the texts written in non-Sl languages. Aside from these texts, extensive records of Sl languages begin for R and U in the mid-eleventh century, for Br and Cz in the thirteenth century, for Polish in the fourteenth, and for LS and US in the sixteenth. Sn has a text (FrFr) of the late tenth century, but there are no subsequent extant texts dated earlier than the sixteenth century.

Other Sl dialects existed but disappeared without being recorded. The most important included those spoken in the area of present-day N Germany, east of the Elbe approximately down to the border between the estuary of the Saale and Fürstenberg on the Odra in the south[1] and nearly reaching the Lower Vistula in the east (Pomoranian or Baltic Sl dialects of such Sl tribes as Vilci-Veletians, Obodrites, etc. Of these dialects Slovincian was still extant in the early twentieth century in the district of Słupsk, now in north-western Poland, and Kashubian is spoken now west and northwest of Gdańsk, both transitional to P); in present-day Hungary and Romania (Dacian Sl dialects); and in Southern Greece, primarily the Peloponnesus. These dialects may be reconstructed only partially and imperfectly from place-names and scanty historical records written in other languages.

[1] Sorbian was spoken south of this line.

All the living Sl languages are spoken in many dialectal varieties besides the standard form. A detailed study of these dialects belongs to the dialectology and history of each individual language. For the purpose of this book it is useful to know the main dialectal breakdown of Russian into North R (roughly NE of the line Pskov–Kalinin–Moscow–Lukojanov–Saratov) and South R (SW of this line), with a strip of Middle R dialects in between; of Br into NE and SW dialects, with a transitional strip including roughly the areas of Maladečna, Minsk and the area south of Mahilew; of U into the N and the S dialects with a boundary line running approximately through Volodymyr Volyns'kyj–Žytomyr–Fastiv–Pryluka–Konotop; of P into the NE dialects of Mazovia, NW dialects of Great Poland, SE dialects of Little Poland, and SW dialects of Silesia; of Sk into WSk, Central Sk, and ESk; of SC into the so-called Čakavian dialects (in Istria, the Adriatic islands, and near Split and Trogir), Kajkavian (in NW Croatia, roughly north of the line Karlovac–Petrinja–Jasenovac), and Štokavian, which cover the large remaining portion of the country, and of Bg into W dialects (roughly delimited by the line Pleven–Pirdop–Pazardžik), and E dialects, in their turn broken into NE and SE along the line Pazardžik–Elxovo–Burgas.

The variety of Sl languages and dialects results from the disintegration of the Common Slavic language, a disintegration which progressed rapidly in the seventh century. There are no known records in CS. It can be – and is – reconstructed on the basis of the available evidence in the Sl of later periods with the support of comparative data from germane non-Sl languages (Indo-European) and historical data. CS could not have been completely uniform: it certainly had its own dialects. These, however, are unknown. Our inability to reconstruct them is caused partly by insufficiency of our reconstruction methods (1, 2); but mainly since the identifying features of the older dialects, save for a few insignificant remnants, were obliterated during the period of the so-called Great Migrations of the Slavs, from the fifth through the eighth centuries.

CS as such ceased to exist by the seventh century; the modern Sl languages however, gradually, arose later. For several centuries there were no stable boundaries in Sl. This was a period of overlapping: it still belonged to the history of CS but also, in its local variations, was a part of the histories of the individual Sl languages then forming.

Such an overlapping was also inevitable at the beginning of CS. By origin CS was a dialect of IE which gradually evolved and separated from the broader whole. Under what particular historical circumstances the separation occurred is unknown. One finds CS as a dialect which first developed some innovations in common with neighboring dialects, Irn, Thra, Ill, and Balt, and then, gradually, accumulated more and more features of its own. Based on scanty historical evidence and linguistic considerations, scholars suppose the period of this gradual formation of CS from within IE to have been between 2000–1500 B.C.

Thus, CS had a long history which lasted for approximately three millenia: from its inception within IE ab. 2000 B.C. till its final dismemberment before

1000 A.D. During this time CS changed radically in its vocabulary, grammar, and phonology. This book attempts to reconstruct the entire history of CS in its phonological aspect – to reconstruct not only the separate stages of CS but the chronologically and logically coherent transitions from one change to another, each of which in some respect remolded the structure of the language as a whole. Such a history should clarify, among other things, the bonds between CS and other IE dialects (languages), and show how the individual Sl languages arose. It will also involve, wherever there is some evidence, an analysis of the ties Sl had with non-related contiguous languages. But the main emphasis will be on the understanding of internal developments in CS's phonology and their motivations.

This book may serve as an historical introduction to, and should logically be continued by, histories of the individual Sl languages. These languages are primarily a series of individual responses to the common challenge presented by late CS, responses taking place under particular regional and historical circumstances. On the other hand, such a book bridges the apparent gap between Sl and pre-Sl because the history of Sl is a natural outgrowth and continuation or rather one of the continuations of the history of IE, along with its sister histories of Indo-Irn, B, It, Germ, etc.

2. Methods of reconstruction. As shown in 1, 1 there are no extensive records of Sl before the late tenth century. CS is a language which is entirely reconstructed. A detailed characterization of methods used to reconstruct proto-languages represented by their divergent descendants is a subject of general linguistics. Only some of the most general aspects of the problem in relation to Sl may be recalled briefly.

The comparative method is the oldest and best elaborated. If a morpheme which cannot be ascribed to mutual borrowing is found in all or several languages the logical assumption is that it goes back, in the kindred languages, to an earlier common form. Those phonological components of the morpheme in question which are identical may as a rule be tentatively ascribed to this ancestral language; e.g., such forms as R, Br *xleb* 'bread', U *xlib*, P *chleb*, LS *klěb*, US *chlěb*, Sk *chlieb*, Cz *chléb*, SC *hlȅb*, M *leb*, Bg *xljab*, OCS *xlěbъ* enable the scholar to ascribe to CS not only the word as a whole (its absence in Sn where 'bread' is *krùh* being disregarded as secondary) but also the consonants *l* and *b*. The initial consonant in most languages is *x*; there are deviations in M and LS where # and *k* are found, respectively. The general considerations as to the probability of # and *k* developing from *x*, and not, say, *x* from #, in conjunction with the evidence of older texts which all show *x* makes the reconstruction of *x* for CS quite plausible. Reconstruction of the CS vowel in this morpheme is not so easy. In its modern forms it is represented by *e*, *i*, *iₑ*, and *a*, vowels appearing so heterogeneous that logically there is no reason to select one of them as the oldest. Of course, one can reconstruct the vowel as *ě* on the basis of OCS; this would be just an algebraic formula for the given set of correspondences (We cannot be certain of the sound value of the letter in OCS).

The very variety and heterogeneity of the *ě* reflexes may suggest that it was not a simple vowel but this would remain only a guess as long as the student operates with Sl material alone. A solution might be found outside of the Sl languages.

But before proceeding to that source, the whole series of Sl correspondences must be checked with other words. To reconstruct phonemes of CS on the grounds of a single word would be irresponsible. Only if we find that the same sets of correspondences exist for *l*, for *b*, for *x*, and for *ě* in a reasonable number of morphemes have we the right to posit these phonemes for CS. Through more extensive comparisons an identical set of correspondences may be discovered in some of the morphemes whereas in others the sets may be different. This would indicate a split or coalescence of the phonemes involved. There is no obligatory one-to-one relation between the phonemes of the modern Sl languages and the phonemes of CS.

Returning to the above example, new clues are found for the problem of *ě* when the non-Sl forms Le *klàips* 'loaf of bread' and Go *hlaifs* are taken into consideration. They confirm the guess that *ě* in this particular case may go back to a diphthong. Yet the question of which diphthong is not simple. Only against the broadest possible background can a decision be made that one of the sources of Sl *ě* were IE diphthongs *oi* and *ai*.

The comparative method, as applied in the early nineteenth century by the founders of IE comparative studies, F. Bopp and R. Rask, and brought close to perfection in the late nineteenth century by the so-called Neogrammarians, is based on the following postulate: if at a certain time, in a certain dialect, a sound in a phonetic environment changes into another sound in a morpheme, it changes identically in all the morphemes which meet the above requirements. This is the concept of "phonetic law" (A. Leskien). For reconstructed languages phonetic laws are reverse reconstruction procedures: they do not begin with the present data and work back to the older stages (as in reconstructions) but start from the older stages working toward the later stages. In terms of reconstruction we would say that the set of correspondences R, Br, Cz, SC, M *e*; U *i*; LS, US *iₑ*; Sk *ie*; Bg *'a* enables one to posit CS *ě*. In terms of phonetic law one would formulate: in CS *oi* > *ě*; in R *ě* > e, in U *ě* > *i*, etc.

Phonetic laws, to the Neogrammarians, have no exceptions by definition. But in fact, affective words easily escape the operation of phonetic laws, a point particularly elaborated in Slavistics by the Czech school of Neogrammarian dissenters (J. Kořínek, V. Machek, F. Liewehr, a.o.). Later, after a phonetic law ceases to operate more and more exceptions are added by morphological levelings, by borrowings, and by new formations, so that for a particular period quite a few deviations from a phonetic law may be found. Still the statement that phonetic laws know no exceptions is correct in the sense that they have no unmotivated exceptions: each deviation must be accounted for if both the law and the deviation are to be accepted.

The Neogrammarian school did not explicitly consider language as a system. In reality, however, the very notion of regularity in sound changes implied at

least some rudimentary recognition of the systematic character of language. This recognition is the point of departure for the method of internal reconstruction. Taking a language as a system in which everything which is alive and productive must be motivated, it considers non-motivated elements of the language as petrified remnants of older stages in its development. This method, invaluable in historical morphology, is of much less importance in phonology. However, it can also offer phonology some glimpses into the past; e.g. in Slavic, suffixes are normally added to the full root but this is not true of the suffix -*x*: in P (colloquial) *brach* 'brother' vs. *brat*, Cz *hoch* 'boy' from *holý* 'bare, beardless'. This goes counter to the word-derivational system of Slavic and testifies to the specifically affective character which *x* once had in Sl, a fact whose knowledge contributes much to the understanding of how *x* arose and spread in Sl (8, 7).

One advantage of the method of internal reconstruction is that features of the older language may be reconstructed even if they are preserved in only one Sl language. With the comparative method the features which are not preserved in at least several languages are irretrievable.

Statistical methods may serve as auxiliary aids in some reconstructions and in establishing chronology (glottochronological "lexicostatistics").

Both the comparative method and the method of internal reconstruction make the reconstruction of older stages in linguistic development possible but they do not guarantee any reconstruction of an older language as it really existed at a certain time. We may establish that in some cases R *e* replaced *ě* which replaced *ai* or *oi*; and we may establish that *x* goes back to an earlier *s*. But these statements still say nothing about the chronology of the developments: was there still *ai* or was it *ě* when $s > x$? In other words, these methods may and do give evidence of the history of separate phonemes but not of the language as a whole. What the student obtains are developmental lines, a kind of pedigree for each phoneme, placed outside of that intertwined and internally coherent system which comprises a language. It is as if we knew the genealogy of all the royal houses in a given region but did not know whether, say Richard I was a contemporary of Louis XV, whether they were allies or waged destructive wars. Both methods are essentially historical but timeless. They project various developments on one surface. In Sl studies this projection has been called Common Slavic. The best representatives of the Neogrammarian trend realized this drawback of the methods. Meillet wrote about CS as he presented it: "The notion of CS with which we operate here ist vague and cannot be associated with any historical situation to be determined in time and space" (*Le slave commun*, p. 11).

It is necessary to establish the chronology of each change for only then is it possible to reconstruct the conditions of a language as a whole at a given time.

3. Relative chronology. Fortunately, the comparative method contains a built in remedy for its own shortcomings. If sound changes were always com-

prehensive there would be no opportunity to establish the chronology of sound alterations within the history of a given language. E.g. if, say, *s* > *x* in all positions and *ai* > *ě* in all positions, no connection could be found between the two alterations. But in reality such complete changes are rare. Much more often changes are conditioned environmentally and do not take place in certain phonetic environments. By comparing the phonetic environments of each particular change, the student arrives at the relative chronology of the phenomena.

Keeping to the two examples cited, *s* did not change into *x* in every case, but only after *k*, *r*, *i* and *u* (for a more precise formulation see 8, 1). But it changed after *ě* which had arisen from *ai*, as in OCS *směxъ* 'laughter' (Cf. Le *smaidît* 'smile'). From this one may infer that at the time of *s* > *x*, *ě* was still not *ě* but a diphthong ending in *i*. Later on *x* > *š* in WSl after *i* and *iN* (for a more precise formulation see 23, 2), e.g. in P *wszystek* 'all' < *vĭx-*. This does not occur, however, after *ě* from *oi*. as in P *uciecha* (OCS *utěxa*) 'comfort' (Cf. Li *taisýti* 'prepare'). This means that at that time "*ě*" no longer ended in *i*: it was no longer a diphthong of *oi* ~ *ai* type. Hence three successive chronological stages are most plausibly established:

1. *s* > *x*
2. *oi*, *ai* > *ě* (= *ɛa*. See 11, 1)
3. *x* > *š*

With this approach the relative chronology of most sound changes in CS may be found. The comparative method thus loses its atomistic character. It becomes an integrated comparative method (ICM). The ICM was first practiced by the best representatives of the Neogrammarian school. But they never used it systematically. It was mainly a device for polemics and remained limited to relations between some two or three sound changes, without any attempt to build the entire consistent and coherent history of CS. E.g., Brückner, who was particularly aware of the problem and who woefully wrote: "No one earnestly cared for (establishing) a chronological succession of sound processes in CS," was frightened by the prospect of doing so and defended his position by saying that he "did not want to write a novel" on this subject[2]. This was one of the most important and blatant contradictions in the Neogrammarian approach: while denying any synchronic, descriptive treatment of modern languages as essentially non-scholarly, they treated CS synchronically, as something timeless, conspicuously defying the facts.

And yet the integrated comparative method gives one the possibility to reconstruct the entire phonemic system of the reconstructed language in its essential features for the period between any two sound changes. Thus, a series of what is often called synchronic slices of the historical development, is supplied. This opens broad vistas for a student: question of conditions and causes of sound changes may be approached seriously for the first time. The

[2] A. Brückner. "Drei urslavische Nasalvokale". *KZ* 43 (1910), p. 370.

importance of the ICM and relative chronology cannot be underestimated. One can only endorse the statement of Benveniste: "Perhaps it will prove that the establishment of a chronology must be the principal preoccupation of the comparativists"[3].

Of course, the reality of these synchronic slices will always remain relative. Not all the stages in the development of CS are reconstructible. First, there are reverse developments: some sound A may become B; and, after a certain time, under changed conditions B may alter back into A. If these were comprehensive changes B would be irretrievable. This, however, is a rare case. Second, and more important, is the fact that we cannot, and do not have to, reconstruct transitional stages in the developments. For example, in CS *g'* > *z*, *k'* > *s* and, an example already used, *s* > *x*. In both cases, the changes were hardly direct or immediate. One may reconstruct a series of gradual transitions between *g'* and *z*, say, *g'* > *ʒ'* > *z'* > *z* or between *s* and *x*, say, *s* > *š* > *x*. Such reconstructions, however, will be futile and unnecessary, for they are all merely theoretical, based only on possibilities. In reality the transitional stages could have been quite different. In addition, these stages must remain unrelated chronologically. In this book such reconstructions are avoided, except in those cases where direct factual evidence exists (as the case of *ₒa*, *ₑa*, see 10,1 and 11,1). Our ignorance of non-reconstructible transitional stages is not detrimental to the reconstruction of the changing phonemic systems: phonemic oppositions as a rule do not change by one sound gliding into another through a sequence of intermediary positions; only the difference between the point of departure and the final result usually matters.

The ICM does not eliminate all the drawbacks of the traditional comparative method. Comparative method is based on the assumption that languages develop divergently, i.e. from unity to variety. But convergences occur fairly frequently, causing the mixing of languages and dialects. It is not that such events cannot be discovered by the comparative method, but if they are uncovered they usually appear as violations of a regularity; and a comparativist's first desire is to explain away such irregularities. It is often quite difficult to find reasons for these irregularities: in many cases collaboration with an historian, an archeologist, or an anthropologist is necessary to unearth historical facts of convergences, but such efforts are not always made.

The reconstruction of vanished dialects of a reconstructed language is usually abortive. If they do not survive directly in some still extant dialects or are not attested historically, they cannot be restored, nor can the very fact of their former existence even be established.

A particularly perilous trap for those using the comparative method is the indiscernibility of morphemes (words) coming from a common patrimony and migratory words. The example cited above, R *xleb*, etc., is in all probability a loan word. Its immediate source in Sl is Go *hlaifs*. As a loan word it could have come to CS at the time of its complete unity; but theoretically,

[3] E. Benveniste. *Origines de la formation des noms en indo-européen*. P, 1935, p. 2.

any foreign word can be borrowed first by one dialect, and then be transmitted by this one to another dialect, and so forth. The word is ultimately found everywhere in Sl; but this does not mean that it was originally CS.

Word migrations within Sl are often betrayed by irregular phonetic correspondences, either in relation to the donor language, or within Slavic. E.g. R *Rim* 'Rome', P *Rzym*, Cz *Řim* as borrowed from Go *Rūma* or La *Rōma* should sound R, P, Cz +*Rym* because in Sl *ū* > *y*. The forms with *i* and the concomitant palatalization of *r* are explicable only under the provision that the word first came into some Sl dialect where there was a confusion of *r* and *r'*, and *y* arose from *ū* sooner than in other dialects (for details see 18,2). The migratory character of the word in CS is secured by the irregular form of the word in Sl when compared to the original language.

In other cases the fact that a word spread from one Sl dialect to another and never belonged to the original common vocabulary is manifest from irregularities in its forms, irregularities which are typical of a certain Sl dialect. La *comitem* 'companion, attendant' (acc sg from *comes*) is used in Sn as *kmèt*, gen. *kmę́ta* 'farmer', SC *kmȅt* 'respected farmer'. Bg *kmétət* 'elderman', all with reflexes of rising pitch; but Sk *kmet'*, Cz *kmet* with their short vowels do not correspond to the SSl forms with the rising pitch. Obviously they were borrowed into Sk and Cz (and P as well) from more southern Sl dialects in which the rising pitch is normally reflected as brevity, and not directly from La. The geography of the word corroborates this view: farther north, in US, the word did not penetrate at all; in R and (Eastern) U it is merely bookish. It may be inferred that the word migrated from SW to NE. R *penjá* 'fine' from La *poena* 'punishment' strikes one by its palatalized *n*. This indicates that the word was not directly borrowed from La. It is a typical feature of NU and SBr to palatalize the predesinential *n* after front vowels (Cf. NU *pinjá* < *pěna* 'foam'). The word apparently came to R from this area.

Native words can migrate as well. OCS *prašta* 'sling', P *proca*, Sn *práča*, SC *prȁća*, Bg *práštva* neatly correspond to each other; R *praščá* is a borrowing from ChSl. In Cz the word assumed a new meaning: *práce* 'work'. This is also found in LS *proca*, US *próca*, Sk *práca*. In this meaning it came from Cz to P (*praca*) and U (*prácja*) as is obvious from the form of the word in the two languages: in a regular correspondence P should have +*próca*, U +*poróča*. As for the So and Sk forms they show no indications of having been borrowed from Cz. This may be due to a common development but could have resulted just as well from interdialectal substitutions. The latter often occur in interdialectal borrowings: the speakers have such a fine sense for the normal phonetic correspondences between the two dialects that they substitute their normal sound for the corresponding sound in the other dialect. E.g., P *ofiara* 'offering', U *ofíra* have a perfect phonetic correspondence to Cz *oběra*; and yet Cz borrowed the word from OHG *opfar*, from Cz it came to P, from P to U. Historical evidence and records show this path clearly and the presence of *f* in the word proves unambiguously that one is dealing here with a relatively late, post-CS borrowing. Another example of language-to-language substitu-

tions is Bg (attested in SChSl and RChSl) *skomraxъ* 'buffoon' borrowed from Gr *σκώμμαρχος (cf. σκῶμμα 'joke'). For Bg *ra* OR substituted its *oro* (OR *skomoroxъ*), OP *ro* (OP *skomrośny* ~ *skomroczny* 'shameless, immodest'). The possibility of substitution prevents the student from concluding decisively whether LS *proca*, US *próca* are borrowed from Cz or not.

In some instances historico-cultural facts alone may decide if a word is migratory or not. The ultimate source of R *púška* 'cannon' is OHG *buhsa*. But the initial *p* is Bavarian and Russian certainly could not borrow directly from Bav. The late date of the appearance of the word in R shows that it came to R from Br; Br borrowed from P, P from Cz, which originally borrowed it from Bav.

The farther back into history one goes the more meagre the evidence for dialects and historical circumstances. One may easily reconstruct the path of *púška*; but in the case of *Rim* one is forced to operate with some unidentified dialect from which the original borrowing came. For still earlier times any distinction between morphemes of common origin and migratory morphemes becomes even hazier and finally almost indiscernible. This is one more fact which makes reconstruction of completely adequate synchronic slices of CS impossible.

In view of these difficulties and obstacles the opinion arose that all we reconstruct were but conventional algebraic formulas and never realities of past linguistic situations. This is not true. There are some gaps in our reconstructions, and there are overlapping periods; we are unable to reconstruct all the nuances of the language in each synchronic slice. But the use of the ICM. when verified against all the historical evidence we possess, still makes possible the reconstruction of the essential and typical features of the language at a particular point in its development. The variety of dialects is lost and so are many transitional stages in the developments; but the reality of the types, i.e. phonemes and even great many allophones, is obtainable. One must not be too skeptical.

4. Absolute chronology. With the assistance of relative chronology the student establishes the order of sound changes, but he does not know exactly when each change occurred or the length of the interval between two successive changes. Even the use of the ICM checked against historical evidence occasionally presents two or more solutions. If A > B and C > D were not remote in time, and there is no connection between the two changes the student is at a loss as to which case preceded and which followed.

Hence, an attempt must be made to find not only the relative chronology of sound changes but their absolute chronology, even if it is approximate. Sources for establishing the absolute chronology are petrified linguistic facts, facts with interrupted development, exempt from the history of the given language.

The simplest example of such facts with arrested development are those recorded by contemporaries of a given period. OR *sъnъ* 'sleep' in MoR became

son; but fixed as *sъnъ* in, say, the eleventh century manuscript of Antiochus' Pandects, the word became frozen in that form, unsusceptible to any changes. If this is not just a convention of spelling (which can be established analyzing other contemporaneous texts), it enables the student to establish that in the eleventh century OR still had a vowel denoted by *ъ* different from *o*.

Less reliable but still important are individual Sl words and names fixed in the records of foreigners in non-Sl languages; but these records hardly go back before the sixth century. Thus, written records, invaluable for the history of the individual Sl languages and, partially, for disintegrating CS, are not available for the earlier periods of CS, that is, for the major part of its history.

Fortunately, there are two more types of linguistic facts with arrested development: loan words and toponyms. If a word was borrowed from Sl into another language it was naturally borrowed in the form it had at that time; and it would no longer continue its Sl development. OR **okъno* 'window' became in MoR *oknó*, but in the form it was borrowed into Fi, *akkuna*, it still preserves the old *ъ* showing that this was an *u*-type vowel. True, the borrowed word finds itself in another stream of development, that of the borrowing language. The borrowing language substitutes its own sounds, and those sounds develop, from that time on, along the same path as the native sounds. But if the structure and the history of the target language is known, the sound changes may easily be "subtracted". In the process of subtraction one finally comes to the point where the word no longer follows the laws of the borrowing language; this is the crossroads of the two traditions where the form in which the word was borrowed (i.e. the form in which it was used at the time of borrowing by the lending language) is uncovered. In our example, for instance, the double *k* is a Fi innovation: Fi has consonants lengthened before a final open syllable. It is not to be attributed to Sl at the time of borrowing. As to the initial *a* its choice is not a fact of Fi development or substitution. Fi of the time had both *a* and *o*. If *a* is used it means that the Sl vowel at the time of borrowing was closer to *a* than *o*, another valuable indication for reconstructing the Sl vowel system before the eleventh century.

In CS loan words from other languages, a comparison of the two languages again enables one to view some details of the phonemic system of Sl at a particular time. E.g., in early Fi borrowings from Germ $x \sim h$ of the latter is rendered as *k*: *kana* 'hen' < **hana*; but in Sl *x* is used as is seen in OCS *xlěbъ* < Go *hlaifs*. This means that Fi of that period did not yet have *h* (which it has now), but Sl already had *x*. Since Sl contacts with the Germans, and the approximate time of the borrowing, may be established by historical evidence, one may infer from this comparison that ab. the first and second centuries A.D. Sl certainly had *x* but Fi had not yet developed its *h*.

The same consideration applies to place-names. In every area to which the Slavs migrated a great number of place-names has been found in the forms used by the indigenous population. The new settlers assumed these names in accordance with the phonologic system of their own language of that time.

By "subtracting" later developments, we arrive at the forms used at this particular period. On the other hand, wherever the Sl area contracted Sl place-names were taken over by the newcomers. From that time on, these names did not change as they would have remaining in Sl usage; instead they became a part of the language of the new settlers and participated in its history. If these developments are "subtracted" we find the Sl form as it was used at the time the territory was lost by the Slavs.

Examples of non-Sl toponyms incorporated into Sl are numerous, say, in Northern Russia (Fi), Dalmatia (Rom), etc.; examples of Sl place-names transmitted to other peoples abound in Eastern and Central Germany, Austria, Hungary, Greece. They are the most valuable material for establishing the absolute chronology of sound changes in Sl, more valuable even than regular loan words. In the latter, sound substitutions of a later date may occasionally occur[4], but this is rare in toponyms, words marked by a stronger tendency to stability. However, even in loan words substitutions are not too frequent and may be easily discovered for the most part, so that it would be unwise to discard the evidence of loan words in establishing the absolute chronology of Sl sound changes for fear of being deceived by such substitutions.

5. Some data from the early Slavic history. The subject of this book is the early history (prehistory) of Sl, not of the Slavs. But as the history of Sl is to be placed in time and space the knowledge of the history of those who spoke Sl, the Slavs, is indispensable. Their internal history, i.e. history of their social and political organizations and institutions, their civilization and cultural development is the foundation for the history of the Sl vocabulary. For historical phonology of CS and early Sl these data are of minor importance as compared to the data supplied by Sl external history: history of Sl contacts with other peoples and Sl migrations. No absolute chronology of sound changes in CS may be established without the knowledge of these aspects of Sl history.

Only a few of the most significant data and dates pertaining to this vast and specialized subject will be recalled here: the data which serve as fulcra in the many attempts to find a chronological framework for Sl language developments. The reader is referred to the specialized literature for further details.

The numerous controversial hypotheses concerning the original habitat of the Slavs cannot be considered here. Besides, the precise geographic area of the primordial settlements of the Slavs is rather irrelevant for the subject of this book. What matters most is information on which non-Sl peoples skirted this area. Apparently the most plausible hypothesis is to place the original habitat of the Slavs in the area north of the Carpathian mountains, present-day SE Poland, W and Central W Ukraine, a point of view close to M. Vasmer and

[4] E.g. U. *Nečýpir* 'Nikephores' in which *č* is possibly substituted for Gr *k* (although the word was borrowed several centuries after *k* > *č* before front vowels in Sl) because the syllables *či* were normal while *ki* rare. (Yet *č* may go back to a dialectal Gr or Serbian pronunciation as well. For details see 17,3. Compare also with 1,3 concerning word migrations).

K. Moszyński. This is the area with a maximum concentration of river-names of Sl origin.

Whether this view is accepted or not, there is much less disagreement concerning the Slavs' neighbors. It may be presumed that in the north the Slavs were bounded by the Balts, in the west by the "Illyrians", in the south and southeast by the Thracians. Contacts with the Fe tribes were precluded by the barrier of the Balts, contacts with the Germans and Celts by the "Illyrians", while the Thracians separated the Slavs from the influences of the Mediterranean civilizations. The Cimmerians of the Ukrainian and South Russian steppes were probably of Thracian extraction, at least linguistically.

From the seventh century to the second century B.C. the Scythians are found in the steppe area, and from the second century B.C. to the second century A.D. the Sarmatians. The ethnic character of these tribes could have varied but the upper strata and, accordingly, the highest type of their civilization, were Irn. Because of the natural expansion of the Slavs eastward and the movements of the Scythians, Sl-Irn contacts were established during this period. Yet the extent of their contacts should not be overestimated. According to Vasmer there are no river-names of Irn origin in the areas occupied by, or close to, the Slavs, those of Černihiv, Kiev, and Volynia. The Scythians and the Sarmatians carried on an active intercourse with the Greek cities on the northern shore of the Black Sea. About one thousand personal names are preserved in the inscriptions from these cities. Along with Gr names there are copious Irn and Thra names but, characteristically, not a single Sl name.

After the "Illyrians" left the area between the Vistula and the Odra the immediate Sl-Germ contacts began. In the first century B.C. the Goths are found in the lower reaches of the Vistula. Expanding southeast they reached the Black Sea about 200 A.D. The Go state encompassed all or almost all the Slavs. In these and subsequent centuries many words were borrowed into Sl from Go.

In 370-75 the Gothic state collapsed under the Hunnic incursion and most of the Goths disappeared from Sl territory. It is difficult to say to what extent the Slavs were involved in the political and military undertakings of the Huns. In any case, this was the first recorded instance of Sl contacts with the Alt peoples; previously representatives of these peoples could have been encountered among the Scythians, but this is no more than a plausible hypothesis.

Whatever the influence of the Huns on the Slavs, the impact of the breakup of the Hunnic "empire on wheels" (453) is unquestionnable. The migrations of the Slavs stimulated by the general confusion and the vacuum of power which often existed in Eastern Central Europe began in the fifth century. The Slavs spread westwards to the basins of the Vistula, the Odra and, in the sixth century, the Elbe. In the middle sixth century, at the latest, they crossed the Western Carpathians and the Sudetes Mountains and poured into Bohemia, Pannonia and further south. Another stream of the Sl invaders and settlers went along the Eastern Carpathians and crossed the Danube by 527 at the

latest. As early as 576 the Slavs are found in Thrace and Greece, while in the southwest they invaded the Eastern Alps and, skirting Italy, streamed into Dalmatia during the same period.

Another stimulus for these vigorous incursions and migrations was the appearance of the new redoutable conquerors, the Avars. In 558 they subdued a part of the Slavs (the so-called Antes) at that time inhabiting the lower reaches of the Dnieper, the Dniester, and the Danube; and in 565 they established a powerful political body in the plains of the Danube and the Tisza which lasted for a century and a half. The Sl migrations of the time were bound up with the Avar campaigns, partly in an effort to avoid the pressure of the Avars, partly as the spearhead or just as a segment of the Avar troups.

These campaigns, migrations, and new settlements of the Slavs brought their language into an entirely new situation. There were not only lively contacts established between the Slavs and Alt (Avar), Germ, Rom and Gr peoples but in many areas, especially in present day Romania, Bulgaria, and Macedonia an actual bilingualism developed. At about the same time the Sl *Drang nach Norden* started, along the Dnieper and the Sož, possibly to escape the pressure of the Avars. The area of the Middle Dnieper sparsely populated by the Balt tribes was traversed and the first direct Sl-Fe contacts began in the seventh and eighth centuries. Somewhat later the Slavs came into contact with the Volga-Fe tribes while moving up the Desna and the Oka.

In the mid-seventh century Sl contacts with the Alt speaking peoples were reinforced when the Khozar state with the centers in the Volga basin and in the Northern Caucasus became a great power (also some ESl tribes were politically dependent on it), and when the Alt speaking Bulgars moved from the Volga regions across the Danube (679) to the area which now bears their name: Bulgaria (for more details on Sl-Alt contacts see 17,4 and 35,8).

By 791–795 when the political and military power of the Avars was destroyed by Charlemagne the huge area from the Elbe to the Volga, from the Baltic Sea and Lake Ladoga to the Peloponnesus was settled by the Slavs, though in many places rather thinly. Their language at that time was rapidly disintegrating in direct proportion to the size of the territory occupied and paucity of means of communication.

But it was impossible for the Slavs to maintain the vast territory inasmuch as parts of it were inhabited by numerous other peoples besides themselves. In Germany a vindicatory movement eastwards was initiated by Charlemagne's son Pepin in 782. This movement, after a stalemate which lasted from 983 till the late twelfth century, eventually brought about the Germanization of the whole Germany of present day, except for the small Polabian enclaves (till the mid-eighteenth century) and the Sorbian territories. Austria was also recovered by the Germans at an early date; and the Hungarian hold over Pannonia (894) destroyed contacts between the southern and northern Slavs. In the Balkans invisible processes which served to concentrate the individual languages slowly progressed. As a result the Sl population of Romania was romanicized, the Roman population of Bulgaria and Dalmatia slavicized, most of Greece

rehellenized, the shattered Thracian language reaffirmed itself in a new shape as Albanian. By the fourteenth through the sixteenth centuries Romania, Bulgaria, new Greece and Albania finally emerged from what seems previously to have been a chaotic agglomeration of bilingual and multilingual population groups.

By that time Slavdom assumed its basic territorial boundaries, save for the colonization of Siberia, Central Asia and the Far East which the Russians undertook on a large scale beginning in the sixteenth century.

6. Motive forces of Slavic sound changes. A study of the history of Sl shows that both CS and its daughter languages were constantly subject to changes in their phonetic and phonemic systems like any other language. In certain periods the changes proceeded at an accelerated pace, in other periods this pace was slower; but there was never a period when changes stopped. The question arises why the sounds and phonemes of a language. in this case Sl, cannot be retained in immobility, what causes their alterations in general. and in each particular case.

To answer this general question is one of the tasks of general linguistics. But each particular history of a particular language or a group of languages besides the direct and immediate purpose expressed in its name, has to furnish material, observations and, within its limited scope. generalizations concerning this problem.

Many factors have been considered as possible causes of sound changes, from climatic and geographical conditions, even including altitude, through language substrata and contacts with other peoples, to such imponderable factors as "national character" or a universal tendency to an "easier pronunciation" and "progress" in language. With the advancement of the structural approach greater attention is being paid to the structure of a language and the forces of its system acting on the language and its speakers.

In this prehistory of Sl, characterization of every sound change is accompanied by an examination of the factors which could have contributed to this change. Of course, invariable factors, like climate or altitude, are not taken into account. It would be logically erroneous to seek the reasons for variability in practically invariable matters (unless a mass migration is involved). But other factors whether external or internal should not be overlooked. General conclusions if they are to be sufficiently founded and not premature can only be drawn from such an array of particular and partial analyses. Consequently, the problem is only posed here. For its further discussion see 35, 10.

7. Approaches to historical phonology of Common Slavic. The first systematic and scholarly presentation of Sl historical phonology in its relation to the underlying IE language should be credited to Franz Miklosich, the Austrian linguist of Sn background. In 1852 his book treating that subject appeared as volume 1 of his comparative grammar of the Sl languages[5]. The book is primarily a large col-

[5] The precise titles and other bibliographic data for all the works mentioned in this section are given in the bibliography at the end of this chapter.

lection of raw materials, more than half of which is devoted to OCS. In this area Miklosich tried to establish regular correspondences between Sl and the non-Sl IE languages. Each sound is treated in isolation. This procedure is repeated in the characterizations of each Sl language. As a whole, the work is rather a collection of outlines of sound inventories of the individual Sl languages available to Miklosich (Br, Pb, Sk, and M are not presented as separate linguistic units) under one cover, than any synthetic presentation of Sl as a whole.

Miklosich's thoroughness and conscientiousness in compiling linguistic facts command the highest respect; and for decades following its publication, his work was the only reliable large-scale source for any studies of Sl phonology. But pioneering works in a discipline seldom are more than that: they are inspired by collector's passion, are atomistic, and soon show their deficiencies. In the case of Miklosich obsolescence was hastened by two circumstances: rapid progress of IE comparative studies which soon made the IE foundations of Miklosich's work out of date; and his conception of OCS as OSn was unfounded.

The title of Miklosich's book, comparative grammar of the Sl languages was rooted in the tradition of the founders of comparative studies initiated by F. Bopp. In that heyday of scholarly studies in IE linguistics, the newly discovered comparative method presented tempting vistas and comparison alone seemed to open new horizons. Today such a title is hardly adequate for the subject. That phonology is not a part of grammar is of secondary importance; more important is that the literal meaning of the title implies a non-historical approach. A comparison of the Sl languages may lead only indirectly to a reconstruction of their older stages, with CS as the oldest. At present it would be better to reserve "comparative grammar" for mainly synchronical typological comparison of languages. In spite of its inadequacy the name is still used traditionally in the titles of even most recent publications.

The title fits Miklosich's work better than it does the courses of later date. His book is not completely devoid of historical considerations. E.g. he establishes the relative chronology of Sl palatalizations of velars. But his book is basically an a-historical comparison: of Sl with IE, and of the Sl languages among themselves. In the latter case there is even more juxtaposition than real comparison.

More than half a century elapsed before another attempt was made to tackle the subject. In 1906 V. Vondrák, a Cz scholar, published his book on the subject, better known in its second, revised edition of 1924. In many respects Vondrák's work was a new landmark in Sl studies. The Sl languages were not simply juxtaposed but classified. CS developments were separated from the later ones in the individual languages. Factual achievements and the more rigid methods of the Neogrammarians were used, in particular an outline of Sl accentuation was introduced for the first time. (In general, however, Vondrák was not a consistent Neogrammarian). Of Miklosich's two overlapping approaches, presentation of the material according to languages and according to sounds, the second was given a definitive preference. However, in its most characteristic aspect, the book remained faithful to Miklosich's legacy: it is not and does not claim to be a coherent history of Sl; basically, it is rather a reference work about the vicissitudes of separate sounds.

J. Mikkola's book published in 1913 (second part, consonantism, in 1942) did not differ in this respect. However, in two other areas it differed considerably: it was consistently Neogrammarian in its approach, in fact it was the most consistently Neogrammarian among all the books on the subject; and, for the first time, it divided CS completely from historical Sl. It is no longer a comparative grammar of Sl, but a grammar of CS, even in its title. The Fi linguist did not write a history of CS, but by disassociating it from the later periods he took the first step toward a more historical approach.

Two more CS grammars soon followed: in 1916 one by the Russian, G. Il'inskij,

and in 1924 another, by the leading French linguist of the time, A. Meillet. The first proved to be a failure, mainly because of the author's blindness to everything beyond elementary phonetic correspondences, particularly to any historical facts and factors. As to Meillet's book, it became a classic in the field not because it overcame the shortcomings and drawbacks of a non-historical approach but because the author was aware of its limitations and consciously did not extract from the available data more than was possible when using that approach. In an amazingly lucid, precise and concise style he presented a projection of Sl phonetic developments onto a surface of some abstract proto-language having no immediate connections in time and space (although, at the same time, he made use of much historical data). The result was a history compressed into one image, not an agglomeration of facts, but a system which never existed in the given form but which is still not anti-historical, an algebra of CS.

The work of another French Slavist, the comparative grammar of the Sl languages by A. Vaillant (1950) introduces many stimulating new ideas and a wealth of data but basically keeps within the framework of Meillet's approach. An essential difference is that the historically attested Sl languages are again included in the work, which sometimes blurs historical perspectives; the Balto-Sl language unity is often exaggerated.

A structural approach was sketched for the first time by R. Jakobson. His book (1929) was mainly devoted to the historical phonology of R; Sl comparative material was treated as no more than a background for the history of this language. The work remained a blueprint, a promise more than a fulfillment. The same applies to a certain degree to the work of the Dutch Slavist N. van Wijk. Unlike Jakobson, Sl comparative phonology was for van Wijk the main field of activity. In the 1920's and 1930's he wrote a series of articles on the most important problems of Sl historical phonology. He followed the fruitful principle of interrelationships among all parts of the phonemic system of the language. He insisted that it was necessary not only to find out how each sound change influenced the phonemic system but also to see how each change was caused by the preceding make-up of the system. In his own words: "When a sound changes we have to assume an operation of tendencies generated by the sound system even in those instances in which a trend toward restoring the balance is not manifest"[6]. But van Wijk's articles remained scattered in various periodicals. He was probably the most natural person to synthesize Sl historical phonology structurally but he never did. His only book on the subject, on Sl development from unity to plurality (1937), is only an outline of the whole evolution as presented in a series of lectures, with more emphasis on the post-CS period; it is still stimulating, but is very general and somewhat impressionistic.

The book of the Cz scholar J. Kořínek, published (in Sk) posthumously (1948) was marked by strictly structural approach. The book concentrated on the early period of CS, on its separation from IE and its own formation. The material for the most part was treated historically, but many traces of the atomistic approach remained: vowels were analyzed in isolation from consonants, and accentuation was virtually omitted.

A peculiar compromise between the Neogrammarian and more modern approaches was undertaken by the Slovenian R. Nahtigal in his book on the Sl languages (1952). Nahtigal used Vondrák's idea in dividing the book into two parts, CS and post-CS, and took over the main body of Vondrák's factual material. From van Wijk he took the idea that the main trends in the phonologic development of CS were the tendency toward open syllables and, in consonantism, toward palatalization. Accordingly, he combined everything possible under these two titles;

[6] "Umfang und Aufgaben der diachronischen Phonologie". *Mélanges J. van Ginneken*. 1937, p. 96.

accentology and the remaining sound changes were treated separately. At first glance Nahtigal's presentation seems to stress historical development. In fact, it is more antihistorical than Meillet's. Nahtigal ignores any idea of a system of language; his presentation is atomistic; the complicated interplay of various, often contrary tendencies in the development of CS is disregarded; periods in the history of CS are blurred. The questions why the tendencies toward open syllables and palatalization operated in CS and why they stopped operating remain without answer. The loss of *jers* which reintroduced closed syllables comes unprepared, like a *deus ex machina*. Conciseness of formulations enabled Nahtigal to pack extensive material into a small number of pages but because of this compression principles which unite the facts suffer heavily.

The need for an historical approach was sensed by the most serious of the Neogrammarians. As early as 1905 H. Pedersen tried to establish the relative chronology of such apparently independent phenomena as the split of syllabic nasal sonants into *iN* and *uN*, first and third palatalizations of velars and metatony; and he mentioned "the lack of consideration for chronology" as one of the principal shortcomings of contemporary linguistics. But these attempts of the Neogrammarians were occasional and never grew into a comprehensive chronology of the phonological development of CS. Trubetzkoy, one of the founders of structuralism in linguistics was the first who devoted (in 1922) a special article to these problems but only for one period of CS, late CS. The first and still one of the best outlines for the whole of CS development was elaborated by Belorussian P. Buzuk (1928), with a significant title: An essay on the history of the prehistorical epoch in Sl phonology. The importance of an historical approach is emphasized twice in the title. From the structural standpoint the chronology of CS was revised by the Czech scholar F. Mareš in an interesting sketch (1956). But certain misplacements in chronology distorted the entire presentation so that the older attempt of van Wijk published posthumously (1950) still preserves its value. Both his and Mareš' essays encompass only late CS.

Some more articles appeared after these first attempts, aiming at the presentation of a brief outline of CS phonological development in terms of changing phonemic systems. Divorced from the facts, and re-telling in new terms what was posited by their predecessors in the structural or, more often, the Neogrammarian school, these essays acquired the character of what Sobolevskij called "linguistic dreams". It was becoming obvious that one cannot use old wine skins for a new wine. New approaches required revision of many previously established theories, viewpoints, and even data, but the work should begin from factual data, not from a priori views.

The first and so far the only attempt in this direction is the comparative grammar of the Sl languages by S. Bernštejn of Moscow University (1961). The book did not solve the problem. Its material is not screened critically enough and the author rarely went to the primary sources. Rejecting the data of loan words, Bernštejn barred his own way to establish any reliable chronology. In addition, he recognizes only synchronic phonemics so that a great many of the motive forces of CS phonologic development remained uncovered by him.

The typical situation today is that the new methods of structural linguistics did not find any adequate adaptation in the studies of CS historical phonology and the best books are still those written with the old approach: they are broadest in scope with regard to the facts used, and the most reliable and down to earth. The problem of adequately matching the corpus of reliable facts with new systematizations, discarding old and unjustified clichés and uncovering a reasonably plausible causality in the interpretation of the facts is still the paramount problem of today's studies in the early history of CS.

This brief survey of the most important works in the field would be incomplete without mentioning that one of the traditions established by the Neogrammarians

was to begin (or intersperse) every course in the histories of individual Sl languages with a more or less detailed outline of the history of CS. This superfluous and wasteful overlap is still widely practiced. In fact, some books which, to judge by their titles, are to describe the history of a given language, appropriate more space to the history of CS. This is, for example, the case of O. Hujer's and F. Liewehr's histories of Cz, S. Kul'bakin's, van Wijk's and A. Seliščev's courses of OCS, etc. A large part of the traditional "comparative grammar of the Sl languages" is included in books of this type.

It is not surprising that the development of Sl etymology ran parallel with the development of Sl historical phonology. The two reciprocally influence each other and their methods have much in common. The pioneering work in etymology was the Sl etymological dictionary by Miklosich (1886), primarily a collection of raw materials. On a smaller scale and a rather amateurish level this also applies to the R etymological dictionary of N. Gorjaev (1892).

Between this approach and the Neogrammarian approach one may place the etymological dictionaries of P by A. Brückner (1927), of Bg by S. Mladenov (1941), and of R by G. Il'inskij (as yet unpublished, except a few samples published in 1957). The best achievements resulted from the endeavors of linguists who followed basically the Neogrammarian trend: E. Berneker for Sl (1908–13, unfinished), J. Holub (1933, third edition by Holub and F. Kopečný, 1952) for Cz, M. Vasmer (1950–58) for R, and F. Sławski (begun 1952, in progress) for P. A separate place must be attributed to the etymological dictionary of Cz by V. Machek (1957). It tries to broaden the rigid framework of the Neogrammarian school by paying more attention to the affective factors in the language and to the connections between words and objects. Many etymologies are fresh and bold but are not always reliable.

Most etymological dictionaries do not include place-names. And yet their importance is indisputable, especially for the reconstruction of the late CS and early Sl. The most important monographs in this field are listed in the bibliography to this chapter.

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2. INDO-EUROPEAN PHONEMIC SYSTEM INHERITED BY COMMON SLAVIC

1. General remarks. 2. Vowels and sonants. 3. Identification and examples of vowels and syllabic sonants. 4. Consonants. 5. Identification and examples of consonants. 6. Laryngeals.

1. General remarks. CS is the direct continuation of IE or, to be more precise, one of its direct continuations. The history of CS begins with the first development not shared with all the other IE dialects. Accumulation of such developments, perhaps triggered by the first one, gradually made CS a separate language. It is impossible to say when exactly CS emerged as such. The term Proto-Sl or Pre-Sl may be used to denote the transitional period of gradual transformation from a variant of IE into a separate language. However, since the precise limits of Proto-Sl cannot be established (other than arbitrarily) this term does not add much. Thus, the term CS is used in this book not only for CS as a distinct separate linguistic unit but also for the transitional development of this unit.

As CS is, in a sense, a reshaped form of IE, its history begins within the history of IE. The question of whether certain other branches of IE separated before or after that time is irrelevant in establishing the beginning of history of Sl. Sl may have evolved from a "complete" IE, or from an "eroded" IE from which certain other languages had already separated, e.g. Hi or Ce. Still CS separated from IE as the latter existed at that time. It is also irrelevant, from that point of view, whether CS split away as a unity from the remaining part of IE and was preserved in its entirety through history or later underwent further splits. The important fact is that the continuity of linguistic tradition and linguistic changes has been preserved until today at least among certain groups of speakers whose language experienced the first "Sl" sound change.

Thus, the last phonemic and phonetic system of IE that still included Sl was the point where the history of CS (or the history of its formation) began. The student of CS expects to learn about this system from the discipline traditionally called comparative grammar (or comparative phonology) of IE. For a Slavist this system is to be taken for granted, and his analysis must begin from that point.

An outline of this system has been to a great extent elucidated by the efforts of scholars working in that field, but many details remain unclear or dubious. There is no need to discuss them at length. Only those of concern to Sl will be mentioned; e.g., some evidence in favor of the opinion that IE had a [θ]-type

consonant is found; but for Sl the question is irrelevant. There are no traces whatsoever of this phoneme in Sl. Thus, the problem may be omitted. The latest pre-Sl IE phonemic system will be presented here only to the extent that it was continued in the history of Sl and somehow determined this history.

Predivisional IE had had a long development, of which it is possible to reconstruct only certain fragments. During its development IE passed through a period of strong dynamic stress which left its imprint on vowel alternations. The system of vowel alternations, an important device in word inflexion and word derivation in IE (See 2,6), had as its basis the triple alternation *e*:*o*:#. The zero grade, #, is supposed to have resulted originally from complete reduction of unstressed vowels. But in late IE the alternation in general, and the # grade in particular, were no longer conditioned phonetically. This alternation became a device of morphology. Moreover, there was no longer any reduction of unstressed vowels. As a rule no distinction in the treatment of stressed and unstressed vowels was made in the daughter languages of IE immediately after their separation from IE. This implies that late IE eliminated its strong expiratory stress. In all probability it had a stress of musical character. One syllable in the word was marked by an elevation of tone.

On the basis of Sl and Balt material. a further assumption may be advanced which the evidence of other IE languages neither overtly supports nor contradicts. One may presume that IE tone was of a twofold character: on long vowels it was rising, on short vowels falling. This difference in the tone curve was extra-phonemic. The rising tone was a corollary of length.

2. Vowels and sonants. Late IE had monophthongs and diphthongs. Every monophthong was used in two forms: short and long. Every short monophthong could be a component of a diphthong. With five basic vowels

i				*u*
	e		*o*	
		a		

IE possessed five additional long phonemes

ī				*ū*
	ē		*ō*	
		ā		

and a combination of six diphthongs:

ei		*oi*	and	*eu*		*ou*
	ai				*au*	

sixteen phonemes in all. In disintegrating IE this number grew to twenty-two. The loss of laryngeals (See 2,6) brought about a set of six long diphthongs, i.e. diphthongs with long first components:

ēi		*ōi*	and	*ēu*		*ōu*
	āi				*āu*	

These vowels participated in specific alternations. The underlying type, as mentioned in 2, 1, was the threefold alternation *e* : *o* : #. In diphthongs this meant the system of, say, *ei* : *oi* : *i*; and respectively *eu* : *ou* : *u*. Thus, *i* and *u* were basically representatives of # grade in the diphthongal alternation series.

As for the corresponding long vowels, *ī* and *ū*, they functioned as # grade of long *i* und *u*-diphthongs (Some of *ī* and *ū* could have arisen from contractions and positional lengthenings).

The status of *i* and *u* as vowels depended on context. They assumed the role of vowels between consonants. Correspondingly, between vowels they normally assumed the features and the status of consonants: [i̯] or [j], [u̯] or [w][1]. In this regard they differed from the vowels *o*, *e*, *a* which always remained vowels. The name "sonants" (resonants) is used for those sounds whose vocalic or consonantal character was determined by their phonetic environment.

Besides *i* and *u* IE had other sonants: *r*, *l*, *m*, *n*. In alternations they behaved like *i* and *u*: between vowels they were consonants, between consonants they were syllabic, that is, functioned as vowels. This means that the combinations *er*, *el*, *em*, *en*; *or*, *ol*, *om*, *on*; *ar*, *al*, *am*, *an* functioned as diphthongs. They are often called diphthongs. For more precision the term "functional diphthongs" may be applied. It goes without saying that when they functioned as vowels the syllabic sonants could also be long, under the same conditions as *ī* and *ū*.

Thus, the vocalic system of the late IE consisted of:

1) core vowels: short (*e*, *o*, *a*) and long (*ē*, *ō*, *ā*);

2) diphthongs: short (*ei*, *eu*, *oi*, *ou*, *ai*, *au*) and long (*ēi*, *ēu*, *ōi*, *ōu*, *āi*, *āu*);

3) functional diphthongs: short (*er*, *el*, *em*, *en*; *or*, *ol*, *om*, *on*; *ar*, *al*, *am*, *an*) and long (*ēr*, *ēl*, *ēm*, *ēn*; *ōr*, *ōl*, *ōm*, *ōn*; *ār*, *āl*, *ām*, *ān*);

4) sonants functioning as vowels: short (*i*, *u*, *r̥*, *l̥*, *m̥*, *n̥*) and long (*ī*, *ū*, *r̥̄*, *l̥̄*, *m̥̄*, *n̥̄*).

These four types[2] were intimately interconnected by the rules of alternations. For more details concerning the latter see 6, 1; for more details concerning long vowels and sonants see 2,6.

3. Identification and examples of vowels and syllabic sonants. How to identify IE vowels from the attested Sl and other IE languages is shown for *o*, *a*, *ō*, and *ā* in 10,3; for *e* and *ē* in 11,3; for *u*-diphthongs in 19,2; for *i*-diphthongs in

[1] In this book *i̯* and *j* and resp. *u̯* and *w* are used to denote the same phoneme, the choice of the letter depending on the motives of emphasis, viz. what is to be pointed out, closeness to vowels or the consonantal character.

[2] For reasons of more economical presentation the IE diphthongs may be considered as groups of phonemes, e.g. *ei* as /e/ + /i/, etc. However, in characterizing the historical development of CS this would entail many additional difficulties and complications because the further evolution of Sl diphthongs did not parallel that of their components.

20,2; for N-diphthongs in 22, 2; for syllabic sonants *r̥*, *l̥*, *m̥*, *n̥* in 5,3; for *ū* in 26,2.

Examples are cited for Sl treatments of *o*, *a*, *ō*, and *ā* in 10,4; of *e* and *ē* in 11,4; the diphthongs *au*, *ou* in 19,3; the diphthong *eu* in 19,4; the diphthongs *ei*, *oi*, *ai* in 20,3; the nasal diphthongs in 22,3; the diphthongs of the type *er*, *el*, *or*, *ol*, *ar*, *al* in 27,3 and 27,9; for syllabic sonants *r̥*, *l̥*, *m̥*, *n̥* in 5,4; for *i* and *u* in 29,3; and for *ū* in 26,2.

A few remarks about the identification of *i*, *u* and *ī* and about the identification of the long diphthongs (long sonants are covered in 5,3 and 5,4), plus some illustrations follow.

One of the stablest vowels in the history of Sl was *ī*. It is basically preserved as such in all the Sl languages except U which let it coalesce with *y* in an *e*-type sound (still denoted *y*). In the non-Sl IE languages *ī* is also easily identifiable: it is represented by *ī*, except for certain cases in Gr when *ια* appears. In Go the spelling was *ei* but the pronunciation probably was *ī*.

Examples: OCS *glinьnъ* 'earthen', R, Sn, Bg *glína* 'clay', Br *hlína*, U *hlýna*, P, LS, M *glina*, US, Sk *hlina*, Cz *hlína*, SC (blended with *gnjȉo* 'rotten') *gnjȉla* – vs. Gr γλίνη 'glue', Cym *glynu* 'to stick', ON *klína* 'to dirty';

OCS *piti* 'drink', R *pit'*, Br *pic'*, U *pýty*, P, US *pić*, LS *piś*, Sk *piť*, Cz, Sn *píti*, SC *pȉti* – vs. OI *pītás* 'drunk', Gr πίνω 'drink', Alb *piva* (aor.), Ir *ibim*.

As for *i* and *u*, they yielded *ь* and *ъ* respectively in both OCS and OR; further development of these vowels (or their correspondences) in Sl depended on position (See 29). Identification of these vowels from the non-Sl IE languages is easy. They are represented everywhere as *i* and *u*, respectively.

Examples: OCS *pьšenica* 'wheat', OR *pьxati* 'bruise' – vs. Li *pìsti* 'coire', OPr *som-pisinis* 'coarse bread', OI *piṣṭám* 'meal', Av *pišant-* 'crushing', Gr πτίσσω 'bruise', La *pistor* 'miller, baker';

OCS, OR **vьdova* (by assimilation *vъdova*) 'widow' – vs. OPr *widdewū*, OI *vidhávā*, Av *viθavā*, Gr ἠίθεος 'single', La *vidua* 'widow', Go *widuwō*;

OCS *tъštь* 'empty', OR *tъščь* – vs. Li *tùščias*, Le *tukšs*, OI *tucchyás*, Av *tusən* 'loose frame';

SChSl, OR *snъxa* 'daughter-in-law' – vs. OI *snuṣā́*, Arm *nu*, Gr νυός Alb *nuse* 'bride', La *nurus* 'daughter-in-law', OHG *snur*.

Long diphthongs lost their length in CS in the earliest period of its history and are identifiable in Sl only by intonation. They have RP (so-called rising pitch) while normally diphthongs have FP (so-called falling pitch. See 4,14). In non-Sl IE languages the long diphthongs are immediately identifiable from OI, Av, and partly Gr. In Av and, in the case of the sonants proper, i.e. *r*, *l*, *m*, *n*, in OI, too, the first vowel is long, whereas in the regular diphthongs it is not. In the case of *i* and *u*-diphthongs, OI and Av have qualitatively different reflexes for the two kinds of diphthongs. The regular diphthongs in OI monophthongized into *e* (< *ei*, *oi*, *ai*) and *o* (< *eu*, *ou*, *au*); the long diphthongs are reflected as diphthongs *ai* and *au*. Gr preserves length in the case of long *i*-diphthongs in open syllables. Thus, for *i* and *u*-diphthongs the correspondences are:

IE	OI	Av	Gr	IE	OI	Av
ei	*e*	*aē* ~ *ōi*	ει	*eu*	*o*	*ao* ~ *əu*
ēi	*ai*	*āi*	η	*ēu*	*au*	*āu*
oi	*e*	*aē* ~ *ōi*	οι	*ou*	*o*	*ao* ~ *əu*
ōi	*ai*	*āi*	ῳ	*ōu*	*au*	*āu*
ai	*e*	*aē* ~ *ōi*	αι	*au*	*o*	*ao* ~ *əu*
āi	*ai*	*āi*	ᾳ	*āu*	*au*	*āu*

As in most IE languages there was a tendency either to shorten long diphthongs or to drop their second components, unambiguous examples with clear parallels in several languages are rare. A few examples:

OCS *gu-mьno* 'granary, threshing floor'[3]. The first component is parallelled by OI *gāúṣ* 'cattle', Av *gāuš*, Gr βοῦς (shortened in the closed syllable);
OR *rjuti* 'roar' – vs. OI *rấuti*;
OCS *rǫc-ě* 'hand' (loc. sg.) – cf. the endings of OI *sutấy-ām* 'daughter', Gr σκιᾶ 'shadow' (dat. sg.).

In one position long diphthongs did not shorten in Sl: before a vowel. Instead, they lost their status of diphthongs: the second component of the diphthong became a part of the next syllable and the first component was treated as a monophthong. In the case of the diphthongs *ōi* and *āi*. *ōu* and *āu* in this position, the first long vowel is reflected as *a* (the short *o* and *a* would yield *o*), in the case of *ēi* and *ēu* one expects *ě* (and not *e*). Examples are:

OCS *věјati* 'blow' – vs. OI *vấyati*, Av *vāiti* (See also 12, 5);
OCS *slaviti* 'glorify' – vs. OI *śrāvāyati* 'announce', Av *srāvayeiti*; cf. with short grade OCS *slovo* 'word' – vs. OI *śrávas* 'glory', Av *sravah-* 'word', Gr κλέ(ϝ)ος 'glory'.

Also in word final position (in endings) long nasal diphthongs were spared (See 15,2 and 22,12).

In their consonantal function, *i̯* and *u̯* are usually preserved, as *j* and *v* word initially and between vowels in Sl, as a rule. In the non-Sl languages *i̯* is lost in Arm, Gr (except for some special cases in which word initially it gave ζ) and Ir; also in word initial position in Alb, and word internally in La, e.g.:

OCS *junъ* 'young' – cf. Li *jáunas*, Le *jaũns*, OI *yūnī* (fem.), Av *y(u)van-*, La *iuvenis*, OIr *ōa* (comp.), Go *juggs*;

As to *u̯* (*v*), Gr has lost it, although it still possessed the sound in its early records (till appr. 400 B.C.); word initially it is also lost in Alb; it is represented, word initially, as *b* in Pers, as *g* in Arm, as *f* in Ir, and as *gw* in Bret, e.g.:

OCS *ovьca* 'sheep' – cf. Li *avìs*, Le *avs*, OI *avikā́*, Gr ὄϊς, La *ovis*, Ir *ói*, Go *awistr* 'sheepfold';
OCS *vesna* 'spring' – cf. Li *vasarà* 'summer', Le *vasara*, OI *vasantás* 'spring', Av *vaŋri-* 'in spring', Arm *garun* 'spring', Gr ἔαρ, La *vēr*, ON *vár*.

4. Consonants. The system of consonants in the late IE as inherited by CS was characterized by double oppositions of voiced stops: in voicing they

[3] In historically attested Sl, the *u*-diphthongs are represented as *u*; *oi* and *ai* as *ě*.

formed pairs with voiceless stops, and in aspiration with voiced aspirated stops. Hence:

Labials	*p*	*b*	*b*ʿ
Dentals	*t*	*d*	*d*ʿ
Velars	*k*	*g*	*g*ʿ.

But the middle members of these triads, especially *b* and *d*, were used much less frequently than their counterparts so that the basic opposition (*p* : *b*ʿ, *t* : *d*ʿ, *k* : *g*ʿ) did not involve one distinctive feature but two simultaneously: lack of voicing and aspiration vs. presence of both.

Besides the regular velar stops *k*, *g*, *g*ʿ, the evidence of IE languages indicates the presence of other kinds of velars. In some IE languages, such as Gr, La, Germ there are reflexes of velars which contain labial articulation. This enables reconstruction of a special set of labiovelars: k^w, g^w, g^{w}ʿ. Other IE languages such as OI, Balt, and Sl, have no traces of labiovelars but reflect some velars as spirants while leaving other velars unchanged. This inspired the idea that IE had a third set of velars, the palatovelars: *k*', *g*', *ǵ*ʿ (also denoted *k̂*, *ĝ*, *ĝ*ʿ). The relationship of the three series is such that the labiovelars and the palatovelars are never represented in the same morphemes but each of them may overlap whit the first set: the simple velars.

It is obvious that the velar stops in late IE were not uniform, but it may be questioned whether they constituted three sets or two. The problem, from the point of view of Sl, is discussed in more detail in 6,1.

There were also attempts to postulate, for late IE, voiceless (sourd) aspirated stops: *p*ʿ, *t*ʿ, *k*ʿ. Of these, in Sl there are unquestionable traces of *k*ʿ. But examples are scarce and, obviously, *k*ʿ was not a regular phoneme but an affective sound (See 3,5 and 8,7).

As for spirants, they were represented by dental *s* only. Its voiced variant *z* occurred positionally before voiced consonants, but it was an allophone of /s/ (See 9,9).

Thus, the consonantal system of late IE as bequeathed to CS consisted presumably of 13 or 16 phonemes of which 12 (or 15) were stops and 6 (or 9) velars. Of course, the use of sonants as consonants (See 2,2) tipped the balance more in favor of non-stops and non-velars:

p	*t*	*k*	*k*'	(k^w	
b	*d*	*g*	*g*'	g^w	+ *s*
*b*ʿ	*d*ʿ	*g*ʿ	*ǵ*ʿ	g^{w}ʿ)	
					+ *m n r l*

5. Identification and examples of consonants. How to identify the aspirated stops is discussed in 3,3 and 3,5; the labiovelars, in 6,3; and the palatovelars, in 8,3. Examples are cited for the aspirated stops in 3,4; the labiovelars, in 6,4; and the palatovelars, in 8,4. This section, therefore, will be devoted to the problems of identifying *p*, *b*, *t*, *d*, *k*, *g* and *s* only.

a) *p* is preserved as *p* in all IE languages, except Arm, Ce (Ir) and Germ.

In Arm *h* is found word initially and *w* in other positions, in Germ (Go) *f* or (after an unstressed vowel) *w*. Ir lost *p* entirely.

Examples: OCS *plavъ* 'fallow' – cf. Li *pal̃vas*, OI *palitam* 'grey hair', Gr πολιός 'grey', La *palleō* 'pale', OIr *líath* 'grey', OHG *falo* 'fallow';
OCS *teplostь* 'warmth' – cf. OI *taptás* 'heated', Av *tāpayeiti* 'warm' (3 sg), La *tepidus*, Ir *ten* 'fire', To B *tsatsāpan* 'heated'.

b) *b* is preserved as *b* in all IE languages, except Arm and Germ and possibly To and Hi where it has shifted to *p*.

Virtually no example is attested in every (or many) IE language (See OCS *bol'ьjь* as cited in 3, 4). Cf.: RChSl *bokъ* 'rib' – vs. Gr βάκτρον 'stick', Ir *bac* 'hook', La *baculum* 'stick';
OCS *dъbrь* 'cleft' – vs. Li *dubùs* 'deep', Le *dubra* 'puddle', Ir *fo-domain* (< **du-bno-*) 'deep', Go *diups*.

c) *t* is basically preserved in all IE languages, except Arm which transformed it into *t'*, Germ (Go) which changed it into *þ* and after unstressed vowels into *ð*, and To which occasionally changed it into *c*.

Examples: R *tenëto* 'net' – Li *tiñklas* 'net', Le *tìkls*, OI *tántuṣ* 'cord', Gr τένος 'sinew', La *tenus* 'cord', Ir *tēt* 'side', Go *uf-Þanjan* 'stretch';
OCS *vrьtěti* 'turn' – Li *vertì* (2 sg), OI *vartatē*, Gr ῥατάνη 'ladle', La *vertō* 'turn', Go *wairÞan* 'become'.

d) *d* is changed into *t* in Arm, Germ (Go), Hi, and *t* or *c* in To. Other IE languages preserve it unchanged.

Examples: OCS *drěmanie* 'slumber' – OI *drāyatē* 'sleep', Gr δαρθάνω, La *dormiō*;
OCS *padǫ* 'fall' (1 sg) – OI *padyatē*, Arm *otn* 'foot', Gr ποδός (gen. sg), La *pedes*, Go *fōtus*.

e) *k* is preserved as such in all IE languages, except Arm in which it became *k'* and Go where it yielded χ (and after unstressed vowels γ). In OI and Av it is reflected generally as *k*, but before front vowels as *č*.

Examples: OCS *krasta* 'scab' – Li *kar̃šti* 'comb', OI *kā̆ṣati* 'scratch', La *carrō*, NHG *harsch* 'rough';
OCS *tekǫ* 'run' – Li *tekmẽ* 'well', Le *teka* 'pavement', OI *tákati* 'hurry', Av *tačaiti* 'run', Alb *ndjek* 'persecute', OIr *techim* 'flee', To B *cake* 'river'.

f) *g* is preserved as such everywhere, except Arm and Germ (Go) which shifted it to *k*. In OI and Av it changed positionally into *ǯ* before front vowels.

Examples: SC *grúhati* 'thunder' – Li *grukšėti* 'crunch', Go *krikstan*;
R *gubá* 'mushroom' – Li *gum̃bas* 'excrescence', MPers *gumbad* 'vault', ON *kumpr* 'lump';
OCS *strъgati* 'plane' – Le *strũgaîns* 'striped', Gr στρεύγομαι 'be squeezed out in drops', ON *striúka* 'stroke'.

g) *s* owing to its isolated position in the system of IE consonants was easily susceptible to shifts in articulation according to various phonetic environments. In no IE language is *s* preserved in all positions. Initial *s* was more resistant to changes: it is retained in OI, Li, La, most Ce languages (but e.g. Bret *h-*), Go, To, and partly Hi. But it changed into *h-* in Av, Arm, Gr (before vowels), and partly in Alb (where *š-*, *gj-* and *th-* also appear). In the intervocalic position *s* was lost in most cases in Arm, Gr, and Ce, became *š* in Alb, *r* (through *z*) in

La. After certain vowels and consonants it moved into hushing order in OI (*ś*), Li, Av, and Arm (*š*). Besides these main lines there were special minor developments conditioned environmentally.

Examples: OCS *strana* 'side' – Le *stara* 'stretch', OI *stṛṇā́ti* 'strew', Gr στόρνῡμι, La *sternō*, Cym *sarn* 'pavement', OHG *stirna* 'forehead';
OCS *solь* 'salt' – Le *sā̀ls*, Gr ἅλς [hāls], La *sāl*, OIr *salann*, Go *salt*, To *sāle*;
R *jásen'* 'ashtree' – Li *úosis*, Gr ἀχερ-ωίς 'white poplar', La *ornus* 'ashtree'.

6. Laryngeals. One group of phonemes was not included in the lists of vowels and consonants of IE presented in the preceding sections: the so-called laryngeals. Their very status is controversial.

The laryngeals are not preserved in any living IE language. They were first posited by de Saussure in 1879 on the basis of his general analysis of IE vowels and their alternations. A new impetus to his theory came half a century later with Kuryłowicz's attempt (1927) to identify the theoretically postulated laryngeals with certain spellings in Hi (Anatolian) texts discovered by that time: *ḫ* and *ḫḫ*. The theory of IE laryngeals became the subject of active research and discussion from several conflicting points of view.

The most important debatable points in the laryngeal theory are: to what extent the evidence of Hi is reliable? How many laryngeals did IE have? Were they sonants capable of vocalization or consonants and if so of which kind? The very notation of laryngeals depends on the answers to this set of questions. There were some suggestions to denote the laryngeals with signs applied for denotation of glottal stops and velar spirants (Sturtevant, Sapir). More frequently, however, signs of a less committal nature are preferred, those which do not imply an immediate phonetic type: either ə (ə̥) or H. But even ə suggests vocalic or semivocalic character. The more abstract H, as proposed by H. Pedersen, will be used in this book.

The number of laryngeals to be reconstructed for IE varies from two (de Saussure) to ten. The theory of four laryngeals is probably the most broadly accepted. Of these, three are reconstructed on the basis of IE outside of Hi: but one of the three is split in two in order to bring these assumptions into agreement with the evidence of Hi. However, the Hi data are not necessarily binding. There are some striking examples of agreement between the use of *ḫ* and/or *ḫḫ* in Hi and traces of the laryngeals in the other IE languages, instances which revived the laryngeal theory. But these instances are few and there are many cases in which Hi *ḫ* and *ḫḫ* do not represent laryngeals and, thus, find no correspondences in the other IE languages. These consonants had several sources in Hi, and their presence or absence is insufficient to posit or deny a laryngeal. The strongest support for the laryngeal theory is furnished by the other IE languages. These, however, authorize the reconstruction of three laryngeals, which may be denoted H_1, H_2, and H_3. In any event, the three seem to suffice for discussion of IE facts outside of Hi, that is to say, for the Sl case.

The principal criterion for determining with which of the three one is dealing

is through the laryngeal's affect on the contiguous vowel, its coloration. The principal type of IE vowel is supposed to have been /e/, in alternation with *o* (and #). H_1 does not change the quality of preceding or following /e/ but lengthens the preceding /e/ into /ē/. H_2 is an *a*-coloring catalyst; H_3, *o*-coloring. Both also lengthen the preceding vowel (but not the following). In a set of formulas:

H_1 + /e/ > *e*	/e/ + H_1 > *ē*
H_2 + /e/ > *a*	/e/ + H_2 > *ā*
H_3 + /e/ > *o*	/e/ + H_3 > *ō*

The vowels *a*, *o* as colored by the laryngeals are recognized by their "non-apophonic" character, i.e. they do not constitute a part of alternation series; an additional indication is found when *a* or *o* occur in such categories in which one would rather expect *e* on the basis of normal distribution of alternation grades. Of course, in some cases the lack of alternations may have resulted from a subsequent loss of some words which belonged to the given alternation series. Certain parts of vocabulary are constantly being "worn out" and grow out of use. Because of this many reconstructions of laryngeals are tentative. Knowledge of the structures of the root admitted by IE, a problem of morphology, may be of some aid.

There are also some other effects ascribed to diverse laryngeals, effects less frequently discovered: voicing of voiceless consonants (OI *píbati* 'drinks', La *bibō*, OIr *ibid* < *pi-pH_3-eti; limited to this example and only a few languages); aspirantization of voiceless stops in OI and Irn; generating prothetic vowels in Arm and Gr (e.g. Arm *inn* 'nine', Gr ἐννέα vs. OI, Av *náva*; OCS *devętь* has *d*- instead of *n*-); velarization into *k* after -*s*- or after another laryngeal; a laryngeal with labial coloration (H_3) is supposed to be "preserved" in some instances as *w* with lengthening of the foregoing vowel, and another laryngeal, with palatal coloration, (H_1) as *j* with lengthening of the preceding vowel. The main effect of the loss of the laryngeals in Sl and Balt specifically was the rise of phonemic pitch, to be discussed in 4,14. Cases of voicing, aspirantization, and prothetic vowels have not been found in Sl. As for the velar *k* continuing a laryngeal, see 15,9; the problem of *w* and *j* as traces of laryngeals is taken up in 16,7 and 12,5.

In interconsonantal positions, certain vowels are found in the IE languages where laryngeals might be posited. In Sl, Balt, Irn, Arm, and Germ this does not occur in middle syllables; in the other IE languages it occurs in the non-middle as well as middle syllables. The vowel found is usually *i* in Indo-Irn, *o* in Sl, and *a* elsewhere (possibly from *o* in Balt and Germ).

It is exactly this fact which prompted the Neogrammarians, Brugmann in particular, to postulate for these vowels an underlying IE "reduced vowel" of the type of *schwa* in Semitic, and to consider this vowel as a member in the alternational series *ē* : *ō* : *ə*. Examples of this vowel are extremely rare in Sl. The following are usually cited:

OR *sporъ* 'profitable' – cf. OI *sphirás*, Arm *p'art'am*, La *pro-sper* (< *-*sparos*) 'prosperous', ON *sparr* 'thrifty';

OCS *stoję* 'stand' – cf. OI *sthitáḥ* 'standing', Gr στατός, La *status*.

The following three examples are quite uncertain:

R *glog* 'hawthorn' – vs. Gr γλῶχες 'awns', ON *kleggi* 'gadfly';

R *vozgrjá* 'snivel' – vs. OI *vijjalaḥ* 'slimy';

and U *zabobóny* 'superstitions' – vs. OCS *bajati* 'talk' as corresponding to Gr φᾰμὲς 'we speak' to φᾱμι 'I speak' (See also 6,6).

An example of a laryngeal dropped in Sl is OCS *dъšti* 'daughter' – cf. Li *duktė̃*, OPr *duckti*, Av *dugədar-* (with a secondary ə), Arm *dustr*, Go *daúhtar* – vs. OI *duhitā́*, Gr θυγάτηρ, To B *tkācer*, going back to **dhug*(')*Hter-*.

These facts, however. do not warrant that the laryngeals should be reconstructed as vowels or a vowel. A more realistic solution is that a vowel was inserted in the consonantal clusters in some cases in which a laryngeal was lost, often from related forms with other grades of alternation. This applies in particular to CS of the time: it was a language with a weak stress and rich inventory of vowels; no vowel losses are found in it; thus the alleged loss of ə would be rather unique and unmotivated.

The loss of laryngeals. understandable in CS provided it was just a link in a series of losses of various types of consonants (aspirated stops, labiovelars, etc.), was responsible for a considerable reorganization of the phonemic system of the language. As long as the coloration of a vowel depended only on the contiguous laryngeal, the various types of vowels could have been but allophones of a single vocalic phoneme /e/ (in alternation with *o*). But with the loss of laryngeals the vowels *a*, *ā* and to a certain extent *ō*, *ē* emerged as independent phonemes. While *ē*, *ō* could have existed in alternation series before that period as well, *ū* and *ī* were due primarily to the loss of laryngeals, as were the other long sonants and the long diphthongs. The inventory of vowels as presented in 2,2 is, in fact, the inventory after the loss of laryngeals. In this sense the loss of laryngeals ushered in the history of CS.

In alternational series the laryngeals functioned like sonants. As noted by de Saussure, the series

*e*H : *o*H : H

behaves in the same manner as, say,

ei : *oi* : *i*.

But here the difficulty begins. In the structure of a root the laryngeals behave not as sonants but as regular consonants: very often they are used like consonants after a sonant, where another sonant was inadmissible. E.g., if the root of Sl (OCS) *znati* 'know' is reconstructed as *$g'neH_3$-, in Li *žénklas* 'sign' it is to be reconstructed as *$g'en\mathrm{H}_3$- (with *e* : # in both the first and the second syllables), i.e. with H after the sonant *n*.

In addition, the three laryngeals are well suited for being consonants and more specifically for acting as spirants of some kind in the general scheme of IE consonants (as suggested by N. Andreev), showing that *s* originally was not isolated in this system:

Dentals:	*d*‘	*d*	*t*	*s*
Palatovelars:	*ǵ*‘	*g*’	*k*’	H_1
Velars:	*g*‘	*g*	*k*	H_2
Laviovelars:	$g^{w‘}$	g^{w}	k^{w}	H_3

This contradiction cannot be solved within the confines of Sl material and problems.

For these reasons the laryngeals are treated separately in this chapter and not assigned either to the vowels (2,2) or to the consonants (2,4). Formally, this is justified by the fact that in both cases the systems presented are taken as reconstructed for the time after the loss of the laryngeals. The effects resulting from the loss of the laryngeals are an important matter for Sl, but the status and the number of these phonemes are of much less concern. Accordingly, the laryngeals will usually not be specified in this book but will be treated summarily as H unless specification becomes necessary.

Selected bibliography

For the inventory of IE vowels and consonants at the time of its disintegration any "comparative grammar" of IE may be consulted, e.g.

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3. COALESCENCE OF ASPIRATED STOPS WITH THE NON-ASPIRATED

1. General remarks. 2. Area. 3. Identification of IE voiced aspirated stops. 4. Examples. 5. Problem of IE unvoiced aspirated stops and their Sl reflexes. 6. Conditions and effects of the loss of aspirated voiced stops. 7. Chronology and historical background

1. History of Sl begins with the first change which is continued in the known Sl languages and is not shared by the rest of the common IE language. This change does not mean that Sl has arisen as an independent linguistic unit. It merely points to the beginning of a dialectal development within IE. Only in the long run does it bring about the complete separation of this Proto-Sl dialect and its transformation into a full-fledged language. But such a primary change, as insignificant as it might be, is an important indication that a certain centrifugal tendency arose in the linguistic development; thus, it signals the birth of a possible future independent language provided historical developments favor and support the further separation of its speakers from their once homogeneous linguistic unity.

It is generally accepted that the earliest dialectal sound change (and change in the phonemic inventory) within IE which initiated the development of what later became Sl, was the loss of aspiration in IE voiced aspirated stops:

*b*ʽ, *d*ʽ, *ǵ*ʽ, *g*ʽ, g^{w}ʽ (often denoted also as *bh*, *dh*, etc.) > *b*, *d*, *g*', *g*, g^{w}.

This was the coalescence of aspirated stops with non-aspirated stops.

2. Area. The loss of aspiration in voiced stops was not limited to the Proto-Sl dialects of IE. It encompassed a broader area and is reflected also in later Irn, Balt, Alb, To, and basically in Ce (with a possible exception for g^{w} vs. g^{w}ʽ). Nor did Hi have aspiration in its phonemic system.

3. Identification of IE voiced aspirated stops. Consequently, IE voiced aspirated stops are identifiable only on the basis of the other IE languages. They may be directly identified from OI, which keeps the IE opposition of non-aspirated vs. aspirated voiced stops intact: the pairs *b* : *b*ʽ, *d* : *d*ʽ, *g* (*j* bevore front vowels): *g*ʽ (*h* before front vowels) continue the IE oppositions of *b* : *b*ʽ, *d* : *d*ʽ, *g* : *g*ʽ, and g^{w} : g^{w}ʽ. The IE opposition *g*' : *ǵ*ʽ is represented in OI by the opposition *j*:*h*. Vestiges of the aspirated stops are found in some extinct IE languages: Thra, Phrygian, and Ill. In Gr, La, Germ, and Arm, the IE oppositions of non-aspirated vs. aspirated voiced stops are reflected indirectly.

In Gr IE simple stops are preserved as simple stops, IE aspirated stops are reflected as spirants or aspirated unvoiced stops:

Gr β for IE *b*,		but φ for IE *b*ʽ	
δ	*d*	θ	*d*ʽ
γ	*g*, *g*'	χ	*g*ʽ, *ǵ*ʽ
β (δ before ε, η) for IE g^w		but φ (θ before ε, η) for $g^{wʽ}$.	

In La IE non-aspirated voiced stops are maintained without any basic change, thus *b*, *d*, *g*, *gu* (*u*) representing IE *b*, *d*, *g* and *g*', g^w. The IE aspirated stops are basically represented by spirants: *b*ʽ > *f*, *d*ʽ > *f*, *g*ʽ, *ǵ*ʽ > *h*, $g^{wʽ}$ > *f*, although in intervocalic position they may have merged with simple stops: *b*ʽ > -*b*-, etc., while $g^{wʽ}$ > -*v*-.

In Go (representing the Germ languages) and Arm simple voiced stops became unvoiced stops, while aspirated voiced stops lost their aspiration but maintained their voicing: *b*, *d*, *g* and *g*', g^w > *p*, *t*, *k*, *q* in Go, and the same holds true in Arm, except that *k* from IE *g*' > *c*. As to the aspirated voiced stops their development in Go was: *b*ʽ, *d*ʽ, *g*ʽ and *ǵ*ʽ, $g^{wʽ}$ > *b*, *d*, *g*, g^w (with a tendency to change them into spirants in the intervocalic position: *ƀ*, *đ*, *ʒ*, *v*), and the same change occurred in Arm except that *ǵ*ʽ > *j*/*z*.

Consequently, the IE aspirated voiced stops may be identified on the basis of the following correspondences:

IE *b*ʽ	Sl *b*	OI *b*ʽ	Gr φ	La *f* (*b*)	Go *b* (*ƀ*)	Arm *b*
*d*ʽ	*d*	*d*ʽ	θ	*f* (*d*)	*d* (*đ*)	*d*
*g*ʽ	*g*	*g*ʽ (*h*)	χ	*h* (*g*)	*g* (*ʒ*)	*g*
*ǵ*ʽ	*z*[1]	*h*	χ	*h* (*g*)	*g* (*ʒ*)	*j* (*z*)
$g^{wʽ}$	*g*	*g*ʽ (*h*)	φ (θ)	*f* (*v*)	g^w (*w*)	*g* (*ǯ*)

4. Examples.

a) *b*ʽ: OCS *bělъ* 'white' – Li *báltas*, Le *bãls* 'colorless', Gr φαλός 'shining', Alb *ballë*, Cym *bal* 'with white face', ON *bál* 'fire';

OCS *rabъ* 'servant' – OI *árbhas* 'small boy', Arm *orb* 'orphan', Gr ὀρφανός 'orphaned', La *orbus*, Ir *orbe* 'small boy', Go *arbi* 'heir'.

The following words may serve as further examples: OCS *berǫ* 'take', *bodǫ* 'butt', *brъvь* 'eyebrow', *byti* 'be', *žrěbii* 'die', *bojǫ sę* 'I am afraid', *grebǫ* 'row', *nebo* 'sky', *borjǫ* 'fight', *brašьno* 'meal', *zǫbъ* 'tooth', *bratъ* 'brother', *bogъ* 'god', *ljubъ* 'dear'; R dial *bajat'* 'talk', etc. (See etymological dictionaries).

Cf. the reflexes of IE *b* in OCS *bol'ьjь* 'more' – OI *bálīyān* 'stronger', Gr βελτίων 'better', La *dē-bilis* 'weak', LG *pal*(*l*) 'firm'.

b) *d*ʽ: R *durák* 'fool' – Li *pa-dùrmai* 'stormy', OPr *dūrai* 'shy', OI *dhórati* 'trot', Gr θοῦρος 'stormy';

OCS *mǫdrъ* 'wise' – Li *mandrùs* 'lively', Le *muôdrs*, OI *mandhātár* 'devout', Gr μανθάνω 'learn', Alb *mund* 'can', OHG *muntar* 'eager'.

Further examples: OCS *vъdova* 'widow', *děti* 'put', *godъ* 'hour, time', *idǫ* 'go', *dvьri* 'door', *děva* 'girl', *drьzati* 'be valiant', *medъ* 'honey', *dojǫ* 'suckle', *dědъ* 'grandfather', *bъděti* 'be awake', *gladъkъ* 'even', *lędvię* 'loins', *ruda* 'ore', *vedǫ* 'lead', *dymъ* 'smoke'; R *óvod* 'gadfly', *dežá* 'barrel, trough', etc.

[1] A later change. See 9,1. For the time under discussion *g*' is to be asumed.

Cf. the reflexes of IE *d* in OCS *rydati* 'weep' – Li *raudà* 'lament', Le *rũdinât* 'make cry', OI *rōditi* 'weep', Av *raostā* 'weep' (aor.), La *rūdō* 'roar', AS *réotan*.

Coalescence of IE *d* and *d*ʻ in Sl causes uncertainty in the etymologies of some words. E.g. OCS *mladъ* 'young' may be akin with OI *mṛdús* 'soft', Gr ἀμαλδύνω 'soften', Arm *melk*, La *mollis* (< **moldvis*), OIr *meldach*, Go *ga-malteins* 'dissolution' with IE *d*, but it also can belong to the family of OI *márdhati* 'loosen', Gr μάλθων 'weakling', Go *mildeis* 'mild', with IE *d*ʻ.

c) *g*ʻ: OCS *gromъ* 'thunder' – Li *gramù* 'crash down', OPr *grumins* 'remote thunder', Av *gram-* 'be angry', Gr χρεμίζω 'whinny', Go *gramjan* 'anger';

OCS *noga* 'foot' – Li *nagà* 'hoof', Le *nagas* 'extremities', OI *áŋghriṣ*, Gr ὄνυχος 'nail' (gen sg), La *unguis*, OIr *ingen*.

Further examples: OCS *gostь* 'guest', *glum-* 'mockery', *grebǫ* 'row', *gověti* 'revere', *lęgǫ* 'lie down', *lъgati* 'tell lies', *(po)stignǫti* 'reach', *gladъkъ* 'even', *dlъgъ* 'long', *grędǫ* 'go', *mъnogъ* 'many', *godъ* 'hour'; R *gadát'* 'tell fortunes'. With the later change of *g* to *ž*: OCS *židǫ* 'wait', P *żłódź* 'slippery frost', etc.

Cf. reflexes of *g* in R *govorít'* 'speak' – Li *gaũsti* 'sound', Le *gaura* 'chatter', OI *jó-guvē* 'shout', Gr γόος 'lament', OHG *gi-kewen* 'call'.

d) *ǵ*ʻ: OCS *zъvati* 'call' – Li *žavėti* 'conjure', Le *zavêt*, OI *hávate* 'call', Av *zavaiti*, Arm *jaunem* 'dedicate', possibly Gr καυχᾶσθαι 'brag' (with *k-* < *x*), Ir *guth* 'voice'.

For more examples see 9. 4.

e) *g*^*w*ʻ: OCS *gorěti* 'burn' – Li *garėti*, OI *ghṛnóti* 'shine', Arm *ǰer* 'warmth', Gr θέρομαι 'become warm', Alb *zjarr* 'fire', La *formus* 'warm', OIr *gorim* 'make warm';

OCS *lьgъkъ* 'light' – Le *liêgs*, OI *laghús* ~ *raghús* 'rough', Av *raγu-* 'agile', Gr ἐλαφρός 'light', La *levis*, OIr *laigiu* 'smaller'.

Further examples: OCS *gъnati* 'drive', *sněgъ* 'snow', *agnę* 'lamb', etc.

Cf. reflexes of *g*^*w* in OCS *govęždь* 'of cattle' – Le *gùovs* 'cattle', OI *gāúṣ*, Av *gāuš*, Arm *kow* 'cow', Gr βοῦς 'bull', La *bōs*, OHG *chuo* 'cow'.

5. Problem of IE unvoiced aspirated stops and their Sl reflexes. Coalescence of the aspirated voiced stops with their non-aspirated counterparts was complete. No traces of their original aspiration are known in Sl. Theoretically one could assume that those dialects of IE from which Sl developed never knew the distinctive feature of aspiration in stops. This assumption would be hardly correct. An indirect proof that aspiration as a distinctive feature was not alien to Sl is that Sl has separate reflexes of IE *k* and *k*ʻ. The former is continued basically as *k*, the latter as *x*.

The problem of IE aspirated unvoiced stops is not quite clear. Those who advocate the presence of this series of phonemes in IE posit *p*ʻ, *t*ʻ, and *k*ʻ. The basis for their identification is supplied by a limited number of IE languages. The reflexes of *p*ʻ, *t*ʻ, *k*ʻ as compared to those of *p*, *t*, *k* are:

IE *p*ʻ – *p*	OI *p*ʻ – *p*	Irn *f* – *p*	Arm *p*ʻ – *h-*, *-w-*	Gr φ – π	Sl *p*
*t*ʻ *t*	*t*ʻ *t*	θ *t*	(*t*ʻ) *t*ʻ	(τ) τ	*t*
*k*ʻ *k*	*k*ʻ *k* (*č*)	χ *k* (*č*)	χ *k*ʻ	χ κ	*x* – *k*

The chart shows that only OI and Irn have all three reflexes of the three posited unvoiced aspirated stops: Arm and Gr lack any traces of *t*ʻ, Sl of both *p*ʻ and *t*ʻ. If we admit the presence of the unvoiced aspirated stops in IE we must also consider the possibility that this series was deficient: while in other cases velars are represented by three series (types *k*, *k*', *k*^*w*) in this instance

only one velar may be posited. Geographically, it is reasonable to agree with Meillet that aspirated sourds were limited to a certain IE area having its center in Indo-Irn, whereas Arm and Gr followed this pattern to a lesser degree, and Sl reduced the development even further. It is also logical to ascribe the rise of unvoiced aspirated stops to the late period of IE when its dissolution had already begun. Possibly the consonants in question arose from *p*, *t*, *k* + a laryngeal. Finally, one can question the phonemic status of *p*‘, *t*‘, *k*‘ in IE and even more so in Proto-Sl. We may suppose that in Sl the aspiration of unvoiced stops created rather optional affective variants of the non-aspirated sourds.

Relatively more reliable examples of Sl *x* < *k*‘ are:

R *xoxotát'* 'guffaw' – OI *kakhati* 'laugh' (with *k* < *k*‘), Arm *χaχank* 'guffaw', Gr *καχάȝω* (with *k*- < *k*‘), La *cachinnō*;

R *na-xál* 'impudent' (also *šalít'* 'play pranks'), Cz *chláchol* 'flattery' – Gr *χάλις* 'frantic', Arm *χal* 'play';

R *xápat'* 'grab' – Arm *χap'anem* 'hinder', La *capiō* 'take', NHG *happig* 'greedy';

R *soxá* 'wooden plough' – Li *šakà* 'tree branch', Le *saka* 'ramification of a tree', OI *śā́khā* 'tree branch', MoPers *šāχ*, Arm *çaχ*, Go *hōha* 'plough';

R *pleš'* 'bald patch' (*š* < *x*) – Li *plìkas* 'bald', Le *pleiks*. Although evidence of OI, Irn, Arm and Gr is lacking the correspondences of Sl *x* and Balt *k* makes one assume IE *k*‘ (otherwise Sl *x* goes back to IE *s*);

Cz dial *chouliti* 'shrink' may be related to OI *kholas* 'lame', *khṓlati* 'limp', with *x*- going back to IE *k*‘. The same is the origin of *x* in OCS *xudъ* 'small, bad' if it is akin to Arm *χun* 'little', Go *hauns* 'low', but this is uncertain. The connection of OCS *rěšiti* 'solve' with Li *riekiù* 'cut' (1 sg), OI *rikháti*, OHG *rîhan* 'rank' is also no more than a marginal possibility.

This small number of examples does not invalidate the presence of *k*‘ in Proto-Sl. One must bear in mind that affective vocabulary (where *k*‘ was used), wears out sooner than any other. Besides this, there is another circumstance which tips the scales in favor of accepting *k*‘ subsequently changed into *x* as a consonant in the earliest CS: the affective nature of *x* in CS as well as in more modern Sl languages, in part up to the present (See 8,7). This affective character of *x* remains incomprehensible unless we agree that one of the sources of this phoneme in CS was the IE affective, substandard, optionally used allophone of *k*, viz. *k*‘.

The relative chronology of *k*‘ > *x* is unclear. There is no evidence to state whether *k*‘, being an affective allophone of *k*, maintained its aspirated character when the full-fledged aspirated phonemes lost it, and underwent the change into *x* when such a phoneme arose in CS (from IE *s*, see 8,1); or whether it perhaps changed to *x* sooner than phonemic *x* developed from *s*, thus paving the way for the growth of this phoneme. At any rate, *x* had no phonemic status before the change *s* > *x* occurred.

6. Conditions and effects of the loss of aspirated voiced stops. Phonetically the aspirated voiced stops of IE were sounds of complex articulation. The basic tongue articulation was to be simultaneous with two additional articulations: that of voicing and that of aspiration. Sounds of such complexity are

often prone to drop one of their articulatory strata (Cf. the unstable status of *ǯ* and *ʒ* in many modern Sl languages)[2].

Phonemically, the position of the aspirated voiced stops was weak because they belonged to a system of triads with a twofold principle of opposition. E.g. in the triad *p* vs. *b* vs. *b*ʻ, *b*ʻ was opposed to *b* in aspiration, *b* was opposed to *p* in voicing, while the opposition *b*ʻ to *p* was more complex, in both aspiration and voicing.

One may surmise that an additional, external push was given by the fall of the laryngeals which affected the voiced aspirated stops in two ways. First, whatever the phonetic nature of the laryngeals, in the position after a consonant they contributed to its aspiration. This was, as mentioned in 2,6, the most probable explanation for the rise of unvoiced aspirated stops in some dialects of late IE[3]. With the fall of laryngeals the functional load of aspiration in the language decreased; in such cases a chain reaction often arises, leading in the long run to complete elimination of the distinctive feature in question from the phonetic system of the language. Secondly, laryngeals also functioned phonemically as a triad, possibly also with a twofold principle of oppositions applied within the triad (coloring the preceding vowels vs. non-coloring, velarization vs. labialization):

H_1			or		$H^{\#}$	
	H_2			H^a		H^o
		H_3				

The loss of this triad marked the beginning of a loosening of the triad system in phonemic oppositions in general, and its transformation to the system of pairs.

The immediate consequence of the elimination of the triad system, with the elimination of the opposition in aspiration, was the increased importance of opposition in voicing. Although the functional load of *b* and *d* was small in IE it was greatly increased in Sl. This opposition was to become crucial in the system of CS consonants.

As usual, the reaction of the Proto-Sl dialects to the loss of laryngeals was not the only possible one. Another possibility has been demonstrated by OI: instead of eliminating aspiration, the latter was enhanced by developing a full-fledged system of voiceless aspirated stops. But OI also eliminated the triad system of oppositions:

	b		was replaced by		*b*	*b*ʻ
p		*b*ʻ			*p*	*p*ʻ.

[2] Phonetic weakness of IE aspirated stops is revealed directly by the well attested tendency in OI and Gr to omit two aspirated stops within the root of one word (H. Grassmann's law). Under these conditions, the first aspirated stop loses its aspiration. See the Gr counterpart of Sl *zъvati*, OI of Sl *xoxotátʼ* in the above examples.

[3] The classical example being OI *ráthas* 'chariot' < **rot*H-*o*-*s* as compared with La *rotā* < **rote*H_2.

7. Chronology and historical background. If it is assumed that the loss of voiced aspirated stops in Sl was but a consequence of the loss of laryngeals, one may consider the latter change as the first phenomenon severing the ties Sl had with the rest of IE dialects. True, the laryngeals have been lost in all the attested IE languages, except Hi to a certain extent, but this occurred in the various IE dialects independently and probably at different times as one can see from the variety of consequences and repercussions in the various IE languages. The above-mentioned loss of aspirated voiced stops, the first consequence of the loss of laryngeals, delimited Sl from all other IE dialects except those from which Irn, Balt, Alb later developed; and the peculiar development of *k*ʿ also separated Sl from Alb and Balt.

These considerations furnish certain clues to the chronology of the changes we are dealing with. Since they are not totally shared with any other IE dialect of the time, it is logical to connect them with the separation of the Slavs from the rest of IE tribes. This is assigned by the joint efforts of archeologists and linguists to a period about 2000 – 1500 B.C. The fact that each of the processes characterized (loss of phonemic aspiration, rise of *k*ʿ) is shared with some other IE dialects does not belie this statement. It is only natural that immediately after the severance of dialects from one another there would be certain common features in their development motivated by their common background.

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4. RISE OF PHONEMIC PITCH AND THE NEW FREE STRESS

1. Rising pitch vs. falling pitch. 2. Phonetic value of CS intonations. 3. Controversial character of the problem. 4. Identification of rising pitch and falling pitch. 5. Examples. 6. Origin of intonations in CS: Neogrammarian approach. 7. The "laryngeal modification" of the Neogrammarian approach. 8. Criticism of the Neogrammarian approach. 9. Sl and IE stress place. Hirt's law. 10. Fortunatov's law. 11. Criticism of Fortunatov's law. 12. Origin of intonations in CS: structural (morphological) approach. 13. Criticism of the morphological approach. 14. The rise of phonemic intonations and new free stress in Sl. Summary. 15. Area. 16. Outlook. 17. Appendix: Survey of the intonations in the endings of the CS nominal declension. 18. Direct traces of the long diphthongs in Sl.

1. IE had quantitative opposition in vowels: length vs. brevity. This feature was maintained in CS. In addition, CS long vowels were characterized by certain pitch or tone patterns also called intonations. The two original types of pitch are still discernible in those modern Sl languages which retain syllabic intonations as a distinctive feature of their phonemic systems: SC and Sn. One type appears in both SC and Sn under stress as a long falling intonation; it is denoted in both languages as ˆ: Sn *lộk* 'bow', SC *lȗk*. The other is reflected under stress in SC as the so-called short falling pitch (denoted ˵; in fact it is rather even or rising-falling, possibly with a kind of glottal stop) and in Sn as long rising (denoted ´): Sn *vlága* 'moisture', SC *vlȁga*. In other Sl languages these two intonations are indirectly demonstrable through distribution of length and brevity, stress shifts, or qualitatively different reflexes of certain CS phonemes (See 4.4).

Outside the Sl languages these intonations on long vowels existed, and in a modified form still exist, in the Balt languages. The first pitch pattern is represented in Li as long rising (denoted ˜), in Le as long falling (denoted ˋ), while the second type appears in Li as long falling (´; except in monosyllabic words) and in Le as long even (˜) or, in certain cases, is replaced by the glottal stop (ˆ). Cf. Li *lañkas* 'hoop, tire', Le *lùoks* 'bend, curve' akin to SC *lȗk* and, on the other hand, Li *válgyti* 'moisten', Le *val̃gs* 'wet' related to SC *vlȁga*. In OPr, the third Balt language, this intonational opposition is attested in at least one manuscript, the *Euchiridion* (1561), but only on diphthongs. A horizontal line over the first component of the diphthong seems to mark the presence of the first intonation, a similar line over the second component or, more often, no mark at all, characterizes the second intonation: OPr *grēivakaulin* 'rib' (Cf. Li *kreĩvas* 'curved', SC *krȋv*) vs. *geits* 'bread' (Cf. SC *žȉto*). This system of notation implies that the first intonation is falling while the second is rising.

2. Phonetic value of CS intonations. The first of the two pitch patterns of long vowels in CS and Balt is traditionally called falling, the second one rising. There have been attempts to reconstruct their original phonetic values, e.g. Trubetzkoy assumed that falling intonation had the following approximate tone curve:



while rising intonation had



The problem is complex, in particular for rising pitch, because of the variegated character of its reflexes in the modern Sl and Balt languages. In the case of falling pitch, SC, Sn, Le and OPr point to its falling nature, but Li in the same cases has a rising intonation. In the case of rising pitch, only Sn and OPr still represent it with a rising intonation; Le in most cases presents an even intonation and, finally, SC as well as Li have a falling intonation, that is, the opposite type. In addition, it is highly probable that even in Sn the rising character of the intonation as we know it today results from a later historical development within Sn.

Because of these uncertainties it seems preferable to use conditional names for the two intonations which do not denote their actual tone design. In French the labels "intonation douce" and "intonation rude" are used. These names do not characterize the curve of the tone, but refer to the general impression only. In certain Sl languages "circumflex" and "acute" are used, referring to the diacritical marks which denote these intonations (ˆ,ˊ), rather than to any phonetic realities. Following this direction to its limits, T. Torbiörnsson marks the two intonations as intonation I and intonation II. In this book the denotations FP and RP shall be employed. They hint at the words falling and rising (pitch) without being too explicit. Thus, the probability of original falling and rising curves for the first and second intonations respectively is assumed. It will be shown below that the history of these intonations rather supports such a view, forcing one to consider the peculiarity of Li the result of a mutation within Li, although this problem is still far from being resolved. As for the present day falling character of the original RP in SC, its full justification may be found in the history of that language: it is the result of shortening the original RP at a time when all short vowels in SC automatically had a falling tonal curve.

3. Controversial character of the problem. Even these few introductory remarks indicate how liable to change intonations are, thus introducing the complexity of the problem. The difficulties in treating Sl intonations are, however, not limited to the instability of their phonetic realizations. No less important is the fact that intonations like most prosodic features are easily susceptible to influences of morphological and semantic factors in each particular word or group of words. Intonation, quantity, and stress, being suprasegmental features, forming a kind of superstructure on basic phonemes, often are less resistant to various shifts, regroupings and even eliminations than the basic phonemes.

A few examples from modern Sl languages should suffice to illustrate the interplay of various factors in interchanges and switches in pitch, quantity, and stress patterns. In R *právyj* 'right'and *lévyj* 'left', the root stress is historically correct only in the former case, where it continues the original RP of the root vowel: but in *lévyj*, with its original FP on the root vowel a stressed ending is expected (See 33,9). The stress has shifted under the influence of the semantically related adj *právyj*. In U as fixed in Hrinčenko's dictionary, a similar stress leveling also took place but in the opposite direction: Hrinčenko cites *livýj* and *pravýj* (Standard U *lívyj, právyj*). The same happened in Cz to *mladý* 'young'. Its regular form, because of the original FP, should have length on *á* (at least in masc, see 33,9). As it is used now it is probably influenced by *starý*, where brevity continues the old RP. The length of desinential vowels is legitimate in the SC present tense conjugation of -*a*-verbs (*pȁdā* 'fall', 3 sg) and -*i*-verbs (*hvâlī* 'praise'); from these it was transferred into -*e*-verbs (*dîšē* 'breathe') although historically this *e* was short. Length has been grasped as a distinctive mark of any present tense ending. It was generalized as a morphological feature.

It often happens that prosodic features in order to remain constant require a kind of morphological or semantic justification assigned to them secondarily and arbitrarily (from the point of view of historical phonology). Their lack of stability is well reflected in the SC dialects. In two adjacent villages, with otherwise identical phonemic systems, one dialect may have retained the historically inherited system of intonations while the other may have eliminated it completely. Synchronically, shifts in distribution of prosodic features are often reflected as vacillations. Cf., along with the quoted U *právyj* ~ *pravýj*, R *réku* ~ *rekú* 'river' (acc sg), *vólnam* ~ *volnám* 'wave' (dat pl), etc. Examples are abundant in all Sl languages which did not abolish prosodic features with phonemic functions (as occurred in P, So, and M; they have fixed stress and no oppositions in quantity and pitch).

For the most part it is not difficult to find reasons for the shifts and vacillations in the use of prosodic features in the Mo Sl languages. But it is not easy to disentangle the entire historical development of intonations in Sl, mainly because our evidence is primarily limited to the Mo Sl languages and dialects. Indications of stress, quantity, and pitch are absent in oldest Sl records. Our sources begin at best in the fourteenth to sixteenth centuries. Although it is possible to discover general laws which governed the development of intonations in prehistoric Sl on the basis of modern relationships, one cannot expect such explanations to encompass all the words in question. A considerable number of words and grammatical categories must be expected to deviate from any general law, due to the many influences and blendings imperceptible today. In fact there is no theory or approach able to explain everything. Thus, the preferred approaches are those explaining the greatest number of cases and presenting a logically and historically coherent concept of the entire development. Such a theory may be subject to criticism on the basis of facts which do not comply, but it cannot be disputed until a subsequent thesis is elaborated which explains more facts.

It is necessary to bear these remarks in mind while assessing the theories promulgated thus far concerning the historical interpretation of how Sl opposition in pitch arose and how the distribution of intonations later changed.

4. Identification of rising pitch and falling pitch. The two intonations are most easily identifiable from the set of correspondences which exist among SC, Sn, Li, Le (and partly OPr, as suggested in 4,1):

FP	SC ˆ	Sn ˆ	Li ˜	Le ˋ (or ˆ[1])
RP	̏	ˊ	ˊ	˜ (or ˆ[1])

It is this set of correspondences which is decisive in determining the original pitch of a syllable, for a separate ˆ or ̏ in SC or ˊ in Sn does not necessarily warrant an original FP or RP. However, this set cannot be automatically applied to all positions. This is not the place to examine in detail the specific histories of SC and Sn but certain pertinent facts should be mentioned.

The set of intonations as presented in the above chart applies to the stressed syllables of the contemporary languages, basically, if the original stress place is preserved. In standard SC as well as in most Štok dialects of it the stress has shifted back one syllable toward the beginning of the word. This shifted stress is always rising. It is long (ˊ) if the original pretonic syllable was long (RP or FP), and short (ˋ) if it was short. E.g.,

víno 'wine' as compared with R *vinó*, Čak *vīnȍ*
dávati 'give' as compared with R *davát'*, Čak *dāvȁt*
sèstra 'sister' as compared with R *sestrá*, Čak *sestrȁ*.

Thus, direct information about CS intonations in standard SC may be obtained solely from those words which were originally stressed on the first syllable and, therefore, underwent no stress shift. The only information which may be derived from the newly stressed syllables (under retracted accent) is whether they had long or short vowels at the time of the shift.

Another limitation concerns final syllables. Open final syllables do not present any evidence about early CS RP, FP, or brevity. In those cases, the distribution of length was completely reshuffled.

In the new closed syllables (i.e. those which historically were followed by ъ or ь later dropped) ˆ and ̏ may point to an original FP and RP respectively, but comparison with other forms of the word, e.g., gen sg is necessary. If ˆ remains, there must have been an original FP, as in *grâd*, *grâda* 'castle', but not in, e.g., *dvôr*, *dvóra* 'palace'. An original RP is indicated by ̏ preserved in oblique cases, as in *grȁd*, *grȁda* 'hail', but not in, e.g., *mȁč*, *mȁča* 'sword', where it goes back to a short vowel. SC information concerning CS pitch on vowels in

[1] Le ˋ points to FP, ˜ to RP on the original stress place; ˆ to the retracted stress. However, Le data must be used cautiously for in WLe ˆ replaced ˋ while in ELe ˜ became ˋ, and in some instances the pitch of standard Le and/or CeLe dialects (on which the standard language is based) may have come from these peripheral dialects.

closed syllables before *l*, *r*, *m*, *n*, *j* is not reliable because of the tendency to lengthen short vowels in this position, cf. *zmâj*, *zmäja* 'serpent', *ôn* 'he' (*òna* 'she'). In the postaccentual syllables (but not final open) RP is reflected as brevity, and FP as length, e.g. *òsip* 'rash' vs. *ȍtēt* 'taken away'; however a posttonic brevity may also represent an original brevity, and a posttonic length may be of a secondary character.

Sn, which has both phonemic pitch and quantity under stress only[2], underwent even more stress shifts and thus presents less direct evidence of the original intonations. CS FP in disyllabic words is either transferred onto the following syllable, e.g. *testô* 'dough', or replaced by ′ as in *róka* 'hand'. (The ˆ was advanced onto the next syllable if the latter had FP or a short vowel). In monosyllabic words ending in a consonant, ˆ is maintained, as in *grâd*, *grâda* and *gradû* 'castle', but it must be not confused with ˆ which developed on brevities, e.g. in *bôg*, *bogâ* 'god'.

The original RP is shortened in monosyllabic words ending in a consonant, but occurs as ′ in open syllables, as in *gràd*, *gráda* 'hail'; however it is again indiscernible within Sn from old brevities, as in *dvòr*. *dvóra* 'yard'. In disyllabic words, RP is continued by ′ if the original stress in the word has not been shifted; in the latter case ′ gives no clue to the original intonation. Cf. *jáma* 'pit' (< **jáma*), as opposed to *žéna* 'woman' (< **gená*; cf. R *žená*, SC *žȅna*, Čak *ženȁ*, with an original short *e*). The quality of *e* and *o* shows if the stress has been shifted: *e*, *o* under original stress are closed (denoted *ẹ*, *ọ* or *ę*, *ǫ*), but under the transferred stress, open (denoted *e*, *o*). Cf. *bòb*, *bóba* 'bean' vs. *dộm*, *dộma* (R *bobá*, *dóma*[3]).

In certain positions information about the distribution of RP and FP in CS may be drawn from other Sl languages, no longer having any phonemic intonations.

Bg, a language which has lost phonemic intonations, still points to the original FP or brevity by shifting the stress from those vowels onto the ending in disyllabic words. Cf. R *šílo* 'awl', *rálo* 'plough', *čádo* 'child', *mjáso* 'meat', *tésto* 'dough', *séno* 'hay' with Bg *šílo*, *rálo*, *čédo* with root stress and *mesó*, *testó*, *senó* with desinential stress. These relations clearly indicate that the first group of words had RP, the second, FP. In masculine substantives the same phenomenon occurs in relation to the postpositive article. Thus, *brátət* 'brother', *gádət* 'reptile', *prágət* 'threshold', *svátət* 'matchmaker' had RP, while FP or brevities are reflected in the stress shifted to the article in e.g. *dolə́t* 'valley', *nosə́t* 'nose', *glasə́t* 'voice', *zverə́t* 'beast', *rogə́t* 'horn', *medə́t* 'honey', etc.

Cz in principle reflects FP as brevity: RP is rendered as length both in dissyllabic words under and before the original stress, and in certain mono-

[2] To be more exact: may have. In modern standard Sn, the distinction between rising and falling tone has become optional. The two intonations fortunately were fixed in detail in the late nineteenth century by M. Pleteršnik and M. Valjavec; Sn in this book is to be understood as the language recorded by them.

[3] See the table of reflexes of CS intonations in Sn and SC in the appendix to 33 (p. 578).

syllabic words under original stress where the length is also maintained in oblique cases: *rána* 'wound', *síla* 'strength' – cf. R *rána, síla*, SC *rȁna, sȉla*; *chvála* 'praise', *mouka* 'flour' (Cz *ou* < *ū*), cf. R *xvalá, muká*, SC *hvála*; *dým, dýmu* 'smoke', *klín, klínu* 'wedge', cf. R *dýma, klína*. Sk has length in place of RP in the original pretonic position: *chvála, múka*, but usually not under the original stress: *rana, sila, dym, klin*.

P supplies little information. Nasal *o* (spelled *ą*) in the original pretonic position in disyllabic words primarily points to FP, while *ę* occurs under the original stress, e.g. *mąka* 'flour', *sąd, sądu* 'court', cf. R *muká, sudá*, but *będę* 'I will', *dęba* 'oak' (gen sg; nom sg *dąb*), cf. R *búdu, dúba*.

In R, Br, and U the original distribution of RP and FP may be seen in the accentuation of the so-called pleophonic groups *oro, olo, ere, ele*. In the case of FP, the first vowel is stressed, in the case of RP, the second, e.g. R *górod* 'town', cf. SC *grâd* vs. R *koróva* 'cow', cf. SC *krȁva*. The ESl pleophonic groups, now disyllabic, originally constituted one syllable (**g₀ard-*, **k₀arv-*). The contour of the pitch curve in one syllable was projected onto two syllables. This is why ESl evidence is important in assuming presumably rising character of RP and falling character of FP[4].

US *ro, lo, re, le* correspond to ESl pleophony. In these groups RP and FP may be also distinguished but only in open syllables. If RP is continued, these groups, most systematically before dentals, have *ó, ě* instead of *o, e*; the latter are preserved in the groups which had FP. Cf. *błóto* 'marsh', *wróna* 'crow', *črjóda* 'herd', *brěza* 'birch', *krówa* 'cow', *dróha* 'road' vs. *złoto* 'gold', *drjewo* 'tree', *črjewo* 'belly'.

Finally, Pb gives some indication about the original intonations through its two stress shifts which recall similar shifts in Sn. In disyllabic words with CS penultimate stress, Pb shifted the stress from a syllable with FP or brevity to the final syllable if the latter was short or had FP, e.g. *stornǫ́* (starnûn) 'side' (acc sg), cf. R *stóronu*, SC *strânu*. On the other hand, final stress in disyllabic words was retracted onto the first syllable if its vowel was long, e.g. *stórna* (starna) 'side', cf. R *storoná*, SC *strána*, Cz *strana*. In most instances this shows FP in CS.

5. Examples. A. For FP: SC *sêno* (*sȉjeno*) 'hay', Sn *senô*, Pb *śonǘ* (sgoní), Sk, Cz *seno*, Bg *senó* – Li *šiẽnas*, Le *siẽns* (Gr κοινά 'fodder');

SC *zlâto* 'gold', Sn *zlatô*, R *zóloto*, US *złoto*, Sk, Cz *zlato*, Bg *zlató* – Li dial *žel̃tas* 'golden', Le *zèlts* 'gold';

SC *zîmu* 'winter' (acc sg), Sn *zimǫ̂*, Pb *zimą́* (simang), Sk, Cz *zimu* – Li *žiẽmą*, Le *zìemu*;

[4] The same occurred to the reflexes of CS *ě* in the jekavian dialects of SC. While *ě* > *je* when it was short, long *ě* (*ē̌*) developed into two syllables and the distribution of stress in them presumably reflects the original curve of tone within one syllable. While SC jekavian *rijèka* 'river' (Ekavian *réka*) has a rising character of stress due to the Štok retraction of the old accent (cf. R *reká*), the pl *rȉjekē* (Ekavian *rêke*) reflects the original FP (R *réki*). RP is reflected in SC jekavian as a brevity (e.g. *ljȅto* 'summer'; cf. Ekavian *lȅto*. Cf. R *léto*, Sn *lẹ́to*, Cz *léto*, Sk *leto*).

SC *mêso* 'meat', Sn *mesô*, P *mięso*, Pb *mąsű* (mangsi), Sk *mäso*, Cz *maso*, Bg *mesó* – Le *mìesa*, POr *mensā*;

SC *zvêr* (*zvȉjer*) 'wild beast', Sn *zvêr*, gen *zverâ*, Sk *zver* – Li *žvẽrį* (acc sg to *žvėrìs*), Le *zvêrs*, OPr *swirins* (acc pl);

SC *vrâg* 'enemy', Sn *vrâg*, U *vóroh*, Sk, Cz *vrah*, Bg *vragə̀t* – Li *var̃gas* 'need, indigence', Le *vàrgs* 'infirm';

SC, Sn *sûh* 'dry', Sk, Cz *suchý* – Li *saũsas*, Le *sàuss*.

Further examples: SC *zûb* 'tooth', *mîr* 'peace' (lengthened in Cz *mír*), *blûd* 'lechery', *snêg* 'snow' (lengthened in Cz *sníh*), *slêd* 'track', *plâz* 'foot of plough', *krûg* 'circle', *trûd* 'tinder' (lengthened in Sk *trúd*, Cz *troud*), *trût* 'drone' (lengthened in Cz *trout*), *grâd* 'castle', *krîk* 'shout', *tûr* 'aurochs', *vrân* 'raven', *vîr* 'eddy', *tȓg* 'market', *lîst* 'leaf', *pêd* 'span', *pêst* 'fist', *têlo* 'body', *têsto* 'dough', *drûg* 'friend', *dûb* 'oak', *drâg* 'dear, expensive', *sûp* 'vulture', *sûk* 'branch', *strûp* 'eruption', Sn *drevô*, etc.

It is not surprising to find many words in which Sl and Balt evidence leads to the assumption of original FP while separate languages deviate in their modern distribution of intonations due to an interplay of morphological and other extra-phonological factors or later phonetic changes. In SC, for instance, certain words of the type *mêh* 'bellows', *žûč* 'bile' have ̏ intonation in oblique cases (gen *mȅha*, *žȕči*) as in the type *bôg*, *bȍga*. There are some discrepancies between SC and Sn, e.g. SC *jȁd* 'grief' vs. Sn *jâd* 'anger, poison', SC *strȕk* 'stem' vs. Sn *stròk*, gen *stróka*, SC *pȉvo* 'beer' vs. Sn *pívo*, and between SC and Bg, e.g. SC *sȓp*, *sȓpa* 'sickle' vs. Bg *sə́rpət*, etc. One finds secondary lengthenings in separate Sl languages, as in Sk *žiar* 'tempering' vs. Cz *žar*, Sk *smiech* 'laughter', Cz *smích* vs. Sn, SC *smêh*, Cz *plíseň* 'mould' vs. Sk *pleseň*, P *wiąz*, *wiąza* 'elm' vs. Cz *vaz*, Sn, SC *vêz*, R *pólosu* 'stripe' (acc sg) vs. Br *palósa*, SC *plȁsa* 'bit', Čak *plasȁ*, *plasȕ* (Sn *plása* ambiguous).

Discrepancies are more frequently found between the Sl languages and Balt or Li alone, e.g. SC *lên* 'lazy', Sn *lên* 'sluggish', Le *lèns* 'slow' vs. Li *lénas* 'calm'; SC *klêt* 'closet', Sn *klêt* 'cellar' vs. Li *klė́tis* 'granary', Le *klẽts*; SC *vîd* 'sight' vs. Li *véidas* 'face', Le *veĩds* 'form'. See 4, 11. Discrepancies of this kind are, however, normal in the case in which Sl and Balt have words with the same roots but belonging to different derivational types, as in SC, Sn *krâk* 'leg', Bg *krakə̀t* vs. Li *kárka* 'arm', or SC, Sn *lûb* 'bast', Bg *lubə̀t*, Cz *lub* vs. Li *lubà*, pl. *lùbos* 'board', Le *luba* 'lime bark'.

In such cases transference (or belonging) to *ā*-stems in Balt usually means that FP was replaced by RP (but cf. SC *mêso* 'meat' vs. Le *mìesa*). There are also cases of FP in Balt but RP in Sl due to the transference of a word to *ā*-stems in Sl: Li *kaũkas* 'boil' vs. SC *kȕka* 'hook'; Li *gum̃bas* 'excrescence' vs. SC *gȕba* 'lichen', Sn *góba*. Cf. within Balt the interrelation of Li *laĩvas* 'boat' to Le *laîva*. This relation is seemingly paralleled in Sl by the correspondence of SC *vrân* 'raven', R *vóron*, with FP, as opposed to SC *vrȁna* 'crow', R *vorónа*, with RP. Cf. also U *bérest* 'elm' vs. R *berësta* 'birch bark'. However, there is a specific explanation for this change of intonation (See 4, 7).

Finally, cases are known in which part of Sl is in agreement with Balt, or Sl as a whole with a part of Balt, as in SC *dlȁn* 'palm', U *dolónja* and Li *délna*, Le *del̃na* with RP vs. Sn *dlân*, Cz *dlaň* with FP; SC, Sn *plên* 'booty', Cz *plen* and Li *pel̃nas* 'gain', Le *pèļna* with FP vs. Br *palón* 'captivity', U *polón* with RP; SC *tȕk* 'grease', Cz *tuk* and Li *táukas* 'bit of fat' with RP vs. Le *tàuks* 'fat' and a variant *tûk* in Čak with FP. But on the whole the number of complete correspondences is relatively high, and the deviations in most cases may be explained by secondary changes.

B. RP: SC *sȉla* 'strength', Sn *síla*, Sk *sila*, Cz *síla* – Li *síela* 'conscience', OPr *seilin* 'industry' (acc sg);

SC *blȁto* 'swamp', Sn *bláto*, US *blóto*, Sk *blato*, Cz *bláto* – Li *báltas* 'white';

SC *sȉr*, *sȉra* 'cheese', Sn *sìr*, *síra*, Sk *syr*, Cz *sýr* – Li *sū́ras* 'salty', Le *sũrs* 'raw, damp';

SC *vȇtar* 'wind', Cz *vítr* – Li *vė̃tra* 'storm', Le *vẽtra*;
SC *prȁg* 'threshold', Sn *pràg*, *prága*, R *poróg*, Sk *prah*, Cz *práh*, Bg *prágət* – Li *pérgas* 'fishing smack';
SC *vȉti* 'twist, weave', Sn *víti*, Sk *vit'*, Cz *víti* – Li *výti*, Le *vît*.

Other examples: SC *vȅra* 'faith', *bȑdo* 'reed', *kȉla* 'hernia', *šljȉva* 'plum', *stȁdo* 'herd', *strȅha* 'eave', *krȁva* 'cow', *krȁsta* 'scab', *plȅme* 'tribe', *lȅsa* 'plank bed', *lȅto* 'summer', *lȉpa* 'lindentree', *dȅlo* 'affair', *jȁsēn* 'ashtree', *jȁvor* 'sycamore', *klȉn* 'wedge', *plȕg* 'plough', *grȁd* 'hail', *drȅn* 'cornel', *klȁsti* 'put', *lȉti* 'pour', etc. Sometimes words with original RP underwent secondary shortening in Cz, e.g. Cz *nit* 'thread' vs SC *nȉt*, Li *nýtis* 'weaver's reed', Le *nĩts* 'thrum'; Cz dial *šlem* 'head-dress' vs. SC *šlȅm* 'helmet', Sn *šlèm*, *šléma*, U *šolóm*, Bg *šlémət*. Divergencies with Balt are not frequent here, but cf. SC *grȁh* 'peas', R *goróx* vs. Li *gar̃šas* 'angelica'.

C. CS brevity may be represented by examples of the type SC *nȅbo* 'sky', Sn *nebô*, Pb *nebŭ* (nebi), Sk *nebo*, Cz *nebe* vs. Li *debesìs* 'cloud', Le *debesis*; SC *slȍvo* 'letter', Sn *slovô* 'parting', Pb *slüvŭ* (sslywy), Sk, Cz *slovo* 'word' – Le *slava* 'rumor'. In monosyllabic words the original configuration is marred by lengthening in the nom sg, while Sn has length in oblique cases, cf. SC *rôv*, *rȍva* 'ditch', Sn *ròv*, *róva*, Cz *rov* 'tomb'; SC *plôt*, *plȍta* 'wattle', Sn *plôt*, *plôta* ~ *plotû*, Cz *plot*, etc.

6. Origin of intonations in CS: Neogrammarian approach. Credit for the first studies and first attempts to systematize the problems of distribution and origin of intonations in CS and Balt belongs to Neogrammarian school. Bezzenberger, Hirt, Brugmann, de Saussure, Fortunatov, Leskien, Būga, Endzelin. van Wijk, Šaxmatov, Lehr-Spławinski and Bulaxovskij participated most actively in these studies. If differing viewpoints concerning details are disregarded, the main lines of the Neogrammarian approach may be presented as follows.

CS did not develop intonations on its long vowels; it inherited them as well as its stress from IE. This is confirmed by the coincidence of Gr and Balt intonations on final syllables[5]. The intonations characterized all long vowels and diphthongs in words, stressed or not. RP in CS was originally found on long monophthongs and long diphthongs; FP characterized regular (not long) diphthongs. Since in the further development of CS short vowels usually followed the same rules as FP, it was assumed for the most part that their pitch would be of a similar type. Thus, intonations were originally dependent on the vowel; each vowel implied a certain intonation; e.g., the intonation of *ā* was always RP, that of *au* FP, that of *āu* again RP. In terms of phonemics it might be said that the intonations at that time had no phonemic value. The Neogrammarians were not concerned with the problem of how the CS intonations acquired their phonemic status.

The Neogrammarian school saw the further development of the CS accentual system in the stress shifts conditioned by the distribution of intonations. Two stress shifts were usually accepted for early CS. One was the retraction of the stress onto the preceding RP. Known primarily as Hirt's law (final formulation 1899), it underwent several modifications suggested by Pedersen, Mikkola,

[5] Gr had intonations in all stressed syllables, but they were freely distributed in final syllables only. See 4,7.

Šaxmatov, Rozwadowski, and Lehr-Spławiński, and may be associated with their names as well. Pedersen wanted to limit this shift to cases with RP on the next syllable. Mikkola spoke of disyllabic words, but did not ascribe any importance to the intonation of the original stressed syllable. Šaxmatov extended the rule to words of any length but limited it to the original stressed syllables with brevity or FP. Rozwadowski and Lehr-Spławiński virtually accepted both limitations. Retraction from final syllables was denied by Bulaxovskij.

The second shift of stress was the advancement of stress from preceding brevity or FP onto the next syllable with RP. This was established by de Saussure for Li (Balt 1894) while Fortunatov (and Meillet) extended the law to Sl (1895). Accordingly, this rule is called de Saussure's, or de Saussure and Fortunatov's law. For the reason explained in 4,15 it is preferable to call it Fortunatov's law, as is done in this book.

One of the most often cited examples of Hirt's law is OI *dhūmás* 'smoke', Gr θῡμός to whose final stress Sl replies with its initial stress: R *dym, dýma*, SC *dȉm, dȉma*; for Fortunatov's law: OI *mádhya* 'middle, border' Gr μέση to which Sl responds with final stress: R *mežá*, SC *mèđa*. Fortunatov's law is of crucial importance for the whole edifice of Neogrammarian accentology. It stands or falls with this law for two reasons. First, Fortunatov's law enables us to establish the original intonations of vowels in endings. These intonations would be otherwise unidentifiable because in late CS all final lengths were shortened and, as shown, brevity was not characterized by intonations. Since Fortunatov's law supposes advancement of stress onto RP only, it must be admitted that those endings which did not attract the stress had FP (or were short). This furnishes evidence for a comparison of Sl and Balt with Gr and, thus, some proof of the IE background of Sl intonations. E.g., the loc sg ending of *o*-stems, *-ě* < **oi* (R *o nóse* 'nose'), does not cause any stress shift; it must be inferred that it had FP; this is confirmed by Li where the corresponding ending *-iẽ* ~ *aĩ* (preserved in adv of the type *namiẽ* 'at home') also continues FP; and the same is found in Gr -οι (also in some adverbs, the type Ἰσθμοῖ, οἴκοι). Secondly, Fortunatov's law accounts for mobile paradigms in Sl inflection. In those forms which had endings with RP the stress advanced, in other forms it remained in its previous position. In this way the difference, for instance, between the loc sg U *na domú* 'house' and the gen sg *dómu* (Sn loc sg *dómu* vs. gen sg *domû*) is explained.

7. The "laryngeal modification" of the Neogrammarian approach. De Saussure observed that CS diphthongs with *r, l, m, n*, which have RP (long diphthongs) may have disyllabic counterparts in OI, Gr, La, and Ce, e.g. CS **bérm-* (OCS, with metathesis, *brěmę* 'burden', R dial *berémja*) vs. OI *bhárī-man* 'carrying', Gr φέρε-τρον 'bier', La *prae-feri-culum* 'offering cup'; CS **ánt(is)* (R *útka* 'duck', SC *ȕtva*), Li *ántis* vs. Gr (Attic) νῆττα, La *ana-tis* (gen sg), OIcel *ǫnd*. After the discovery of Hi with its *ḫ* it is accepted that the post-diphthongal vowel in such cases goes back to an IE laryngeal (H). Dropped in middle syllables in Sl (as well as in Balt, Av, Arm and Germ), H left a trace in the substitutive RP while in OI,

Gr, It, and Ce H after diphthongs was replaced by a new vowel. Thus, the difference in intonation between R *vóron* 'raven', SC *vrân* and R *voróna* 'crow', SC *vrȁna* finds its counterpart in two varieties of the same root in Hi: *u̯ar-* and *(u̯)arḫ-* 'burn (=make black)'[6]. CS **pór-tēi* (R *porót'* 'rip', Sn *práti*) finds its counterpart in Hi *parḫ-* 'drive'.

The lengthening of diphthongs and the subsequent (in Sl and Balt) rise of phonemic intonation on diphthongs is to be assigned to the period of disintegration of IE. One cannot assign the opposition in intonations of that origin to all IE dialects. When the Neogrammarians did so they had to answer the question why and when the intonations got lost in all other IE dialects (or languages), except Sl, Balt and Gr.

Moreover, although Sl and Balt in some cases share their use of phonemic intonation with Gr, one has to assume that the crucial developments in Sl and Balt, on the one hand, and in Gr, on the other hand, proceeded independently. As mentioned above, Gr has phonemic intonation on final syllables only. Penultimate stress presupposes FP automatically if the vowel is long and the final syllable has a short vowel (γλῶττᾰ); if the stressed vowel in the penultimate syllable is long but is followed by a syllable with one more long vowel or if it is short it automatically takes RP (γλώττης, νόμος). If the stress falls on the prepenultimate syllable it can be only rising (ἄνθρωπος). This distribution is but a logical consequence of the fact that H in middle syllables was not dropped in Gr as it was in Sl, but produced a vowel (or was replaced by a vowel) between consonants and after a diphthong. Therefore Gr lacked the prerequisite for the rise of free intonational opposition in middle syllables. Thus, in the rise of phonemically opposed intonations, Gr and Sl (with Balt) despite some striking similarities went in two different directions. These similarities are accounted for by the same point of departure (presence of laryngeals in Proto-Gr and Proto-Sl dialects of IE) and by the same reaction in final syllables (loss of H resulting in the rise of RP, and FP stemming from contractions, as e.g. in the gen sg of *ā*-stems: Gr -ᾶς, Li -*õs*, or the gen pl: Gr -ῶν, Li -*ų̃*).

8. Criticism of the Neogrammarian approach. Recognition of the laryngeals and their impact on the rise of CS intonations necessitated revising the geography of the phenomenon. It became impossible to ascribe the phonemic distinction of RP and FP to IE as a whole. The rise of phonemic intonations proved to be a dialectal phenomenon of late, disintegrating IE. On the one hand, this phenomenon characterized Sl and Balt, on the other, with important

[6] Whether this applies to other words in *-a* opposed in their pitch to the corresponding masculines (See 4,5) is a possibility which, however, can hardly be verified.

[7] Examples for treatment of H in middle syllables are given at the beginning of this section. Another example is SC *rȁlo* 'plough', Sn *rálo*, Cz *rádlo* < **árdlo*- cf. Li *árklas*, Le *ar̂kls*, ON *ardr*, all with H dropped, vs. Gr ἄροτρον (Cretan ἄρατρον), La *arātrum* (*ā* lenghened under the influence of *arāre*), Ir *arathar*, Arm *araur*, To *āre* – all from **ar*H-. More examples in 2,6.

peculiarities in both the development and the distribution, Gr. Otherwise the Neogrammarian theory was maintained along with the recognition of Hirt's and Fortunatov's laws. These were supposed to have changed the distribution of the IE stress (otherwise preserved by CS) making it impossible for a syllable with FP or brevity to be stressed if the preceding or following syllable had RP. Practically, the two laws reduced to a minimum the instances of stressed middle syllables with FP or brevity: such a case was possible, according to the two laws, only in those words which contained no vowel with RP preceding or following the syllable in question (as in R *gotóvo* 'ready'[8]). But the intonations still remained constantly associated with certain vowels and therefore still had no phonemic value.

With the spread of structuralism in linguistics the untenability of the Neogrammarian approach seemed obvious, and criticism of the traditional concepts evolved, in a particularly radical manner with the studies of Kuryłowicz, in a milder vein with the work of Stang, and, correspondingly, new theories were elaborated treating the rise of CS and Balt intonations. This criticism was of twofold nature. On the one hand, the Neogrammarian theories were criticized from the general viewpoint of linguistic typology. On the other hand, many facts were emphasized which cannot find any satisfactory explanation in the traditional approach. Most of the factual contradictions were also well known to Neogrammarian scholars but they attempted to explain this away, considering these facts as individual irregularities, each requiring a particular explanation: they did not elaborate a general theory to account for all of these. It is important to analyze briefly the principal objections which were, or may be, raised against the Neogrammarian presentation of the evolution of CS and Balt intonations.

The main objection from the viewpoint of linguistic typology is that there are no languages attested which would have simultaneously free stress, opposition in quantity, and opposition in intonations in all syllables, both stressed and unstressed. Taking examples from Sl and Balt, we find languages with free stress and opposition in quantity, but opposition in pitch appears only under stress, e.g. SC and Li; or intonations are used as a phonemic device in unstressed syllables as well, but the stress is not free, e.g. Le as based on the Central Le dialects, with their fixed initial stress. Henceforth, to posit CS as a language with free stress, phonemic quantity, and phonemic pitch on all the syllables would be a mere theoretical construct with no precedence in any known language. It would be a language with an unnaturally overdeveloped use of suprasegmental (accentual) features.

This objection may be countered with two arguments. The first is of general character and concerns any typological consideration: linguistic typology is based on known languages; but discovery of a language with a quite different structure is never excluded.

A more important argument is that from the Neogrammarian statements

[8] In modern Sl *o* goes back to various CS vowels but as a rule always short.

about the system of CS intonations it follows that the intonations in early CS had no phonemic value, being but concomitant elements of certain vowels, each intonation invariably fixed with reference to a certain set of vowels. *Mutatis mutandis*, it recalls the situation of Mo Li. In that language, according to the observations of Jaunius, all vowels have intonations distributed in such a manner that all pretonic vowels have rising pitch, while all postaccentual vowels bear falling pitch. This principle of distribution differs from that posited for CS: the character of the pitch is conditioned by the position in the word, it is not inherent in the vowels as such. But all vowels have their pitch contour, whether stressed or not, and this contour varies. The variations are positional, i.e. extraphonemic, as they are supposed to have been in CS.

If one tries to apply phonemic criteria to the theory of the Neogrammarians to see how the intonations acquired their phonemic status in CS, one would have to suppose that the intonations for the first time obtained phonemic value on diphthongs when long diphthongs shortened but retained their RP. If CS previously had regular diphthongs with FP opposed to long diphthongs with RP, so that the difference in quantity was relevant and the difference in intonation concomitant, now the difference in quantity was eliminated and the burden of distinction was transferred onto intonation alone: diphthongs with FP opposed to diphthongs with RP. Then the phonemic opposition was extended to monophthongs due to morphologically conditioned shifts in paradigms with mobile stress (See 4, 11) and other levelings.

Thus, arguments of a typological character may be refuted and the Neogrammarian theory defended and maintained. However, as will be shown in the case of CS and Balt intonations, there is no need to dispute the requirements of linguistic typology: they may be retained and adapted to the facts. An analysis of factual objections may prove to be more important; three points are important: unexplained discrepancies between Sl and IE stress place; the alleged untenability of Fortunatov's law; and presence of monophthongs with FP instead of the solely justified ˜ ˎ as illustrated with examples in 4,5 A.

9. Sl and IE stress pla… Hirt's law. If we basically accept the Neogrammarian theory of CS intonations we would expect that 1) in all cases in which Hirt's and Fortunatov's laws did not operate Sl would preserve the IE stress place; 2) if the stress is retracted onto the preceding syllable that syllable had RP; 3) if the stress with FP or brevity is not retracted onto preceding syllable the latter could not have RP; 4) if the stress under FP or brevity advanced onto the next syllable that syllable had RP; 5) if the stress under FP or brevity did not advance onto the next syllable that syllable could not have RP. Statements 2 and 3 refer to Hirt's law, 4 and 5 to Fortunatov's law, statement 1 to both.

Hirt's law, in that broad sense which is ascribed to it in 4,6 (stress retraction from FP or brevity onto the preceding RP) is based on a small number of examples in which OI and Gr vouch for the IE place of accent; Germ may also

be used for this purpose, though indirectly, through its consonantal mutations[9]. The examples, besides R *dym* cited in 4,6 are:

SC *mȁti* 'mother'	Li *mótė*	OI *mātáram* (acc sg)	
pȕn 'full'	*pìlnas*[10]	*pūrṇás*	
pjȁn 'drunk'		*pyānás*	
dȕg 'long'	Li *ìlgas*	*dīrghás*	
krȁva 'cow'	*kárvė*		Gr κερα(ϝ)ός 'horned'
jȁto 'herd'		*yātám* 'way'	
bȉti 'be'	*bū́ti*	*bhūtís*	
zȑno 'grain'	*žìrnis* 'peas'	*jīrṇás* 'ground'	
vȉdra 'otter'	*údra*	*udrás*	but Gr ὕδρα 'water-serpent'
grȋva 'mane'	Le *grîva* 'river mouth'	*grīvā́* 'neck'	
dȅvēr 'brother-in-law'		*dēvā́*	Gr δαήρ (< *δαιϝήρ)
Sn *íl* 'clay'			ἰλῦς 'silt'

The fact that the number of examples is not large does not prove the law invalid: there are not too many words of identical or very close morphological structure common to Sl and OI, or to Sl and Gr, or to Sl and both. More important is that the number of contradicting examples is hardly smaller. There are words having a retracted stress in comparison to other IE languages that are able to give testimony of the presumed IE stress place, but with FP, e.g.:

Br *dórab* 'box'	Li *dárbas* 'work'	OI *darbhás* 'grastuft'	
SC *mêso* 'flesh'	OPr *mensā*	*māṁsám*	
trâk 'bandage'	Le *tērka* 'string to fix buoys of fishnet'	*tarkúṣ* 'spindle'	
svêt 'light'		*śvētás* 'shine'	
svêt 'holy'	Li *šveñtas*	*śvāntás* 'prosperous'	
R *górod* 'town'		*gṛhás* 'house'	
SC (*vrât* 'neck')	*var̃stas* 'plough turn'	*vṛttás* 'round'	
sûk 'branch'		*śaṅkúṣ* 'plug'	
lêv 'left'			λαι(ϝ)ός
Also with brevities:			
SC *hôd*, *hȍda* 'way'			Gr ὁδός 'road'
pȍd 'floor'	*pādas* 'plaster floor'	*padám* 'step'	ποδός 'foot' (gen sg)

[9] Germ of historical time replaced IE free stress by initial stress. But the mutation of consonants typical of Germ proceeded differently depending on the original stress place in the word. E.g., in the position after the stressed vowel IE *t, p, k, k^w* gave *þ, f, h, ƕ* but when they were not preceded by the stressed vowel they changed through *đ, ƀ, ʒ, ʒ^w* into *d, b, g g^w*: Go *broþar* 'brother' but *fadar* 'father', cf. OI *bhrātā* vs. *pitā́*.

[10] In Li *ŕ̥, l̥̄* shortened. Therefore *ìr, ìl* testify to the original RP, whereas *ir̃, il̃* continue FP.

R dial *gon* 'length of tilled field'	*ghanás* 'club'	
Sn *igô* 'yoke'	*yugám*	Gr ζυγόν

Of no significance, of course, are words in which the stress place is the same in Sl as in Li, OI and/or Gr, and yet in Sl RP is found, sometimes even on diphthongs, e.g.,

SC *pȅna* 'foam'	Li *spáinė*	OI *phḗnas*	
vȕna 'wool'	*vìlna*	*ū́rṇa*	
gȑlo 'throat'	*gùrklį* (acc sg)		Gr βάραθρον 'gulf'

In such instances the presence of RP is motivated by the loss of a laryngeal which brought about long diphthongs, or else by the originally monophthongal character of the vowel in question, which is expected to be characterized by RP in Slavic, by definition.

Thus, the contradictory examples outweigh or equal those on which Hirt's law is based. A few more examples could be added to each group cited but they will not change the general picture: a lack of rigid correspondences and a seemingly haphazard distribution. Thus Hirt's law inasmuch as it applies to a comparison of Sl data and IE (so intended by Hirt) cannot be upheld. Nevertheless there is some truth behind it. Limited to an internal examination of Sl alone, one will note the peculiar fact that words with final stress have root vowels with the original RP only as a rare exception. In modern R, e.g., only *byk, -á* 'ox', *kij, -á* 'cue', *plast, -á* 'layer', *plašč, -á* 'coat', *pryšč, -á* 'pimple' belong to this category in masc, and the fem instances are even rarer: *bedá* 'misfortune', *strelá* 'arrow', *travá* 'grass'. Even in some of these words this type of accentuation is probably secondary and due to pitch mutations (Cf SC Čak *bȉk, bȉka;* Sn *plâst*; Cz *střela*; on *plašč* see 33,16; *strelá* and *travá* had acc sg with root stress, which points to an earlier root stress, before Fortunatov's law). Hence the solid kernel of Hirt's observation is that Sl had a tendency to stress the root and not the ending in disyllabic words that had root vowels with RP. For further discussion see 4,14.

A few special remarks are required concerning accent retraction onto prepositions and prefixes, i.e. in accentual units with more than two syllables. A leveling in the accentual treatment of CS prepositions and prefixes took place: retraction (or non-retraction) of stress onto prepositions and prefixes was generalized in nouns independently of their intonation. This does not imply that, in case of retraction, all prepositions obtained RP. Such an assumption would run counter to such later differences as, say, SC *návada* 'habit', *náuka* 'science' with length of the prefix vowel (which had RP) vs. *òtava* 'aftergrass', *òmama* 'decoy'. The very fact that some prefixes have *a* (*na-, za-...*) which always continues a long vowel and others *o* (*po-, pro-...*), a reflex of a short vowel shows that there was no generalization of pitch (The distinction of *pa-, pra-* in nouns and *po-, pro-* in verbs is probably pre-CS). But all the prefixes affected the accentual structure of the word in the same manner. This was

4*

probably the result of the joint impact of two factors: the still active IE tendency to transfer stress onto prefixes and the new "Hirt's law".

The prepositions and the prefixes presumably attracted stress from succeeding syllables with FP or brevity, but not from those which had RP. This situation with regard to prepositions is still evident in SC of at least the mid-nineteenth century, which had *ȕ grād* 'to the castle', *ȍd grāda* 'from the castle', *nȁ rūku* 'on the hand', *nȁ strānu* 'on the side', *pȍd nōć* 'toward night', *ȍd gore* 'from the hill' with the CS accent on the preposition and the unstressed substantive having FP or brevity, as opposed to the newly shifted (within SC itself) stress in the groups composed of preposition + substantive having RP of the root vowel: *òd brata* 'from the brother', *zà sitom* 'behind the sieve', *nà smrt* 'to death', etc., positing earlier SC *od bráta, za sítomъ*, etc. (Cf. SC *brȁt, sȉto, smȓt*). Remnants of the same type of distribution are still discernible in Sn *iz grâda* 'from the castle', *pod nêbo* 'under the sky', *za ûho* 'by the ear', from **ìz grada, *pòd nebo, *zà uho* to *grâd, nebô, uhô* having FP or brevity. This accent shift does not occur in subst with original RP. Bg like U subsequently lost the CS stress retraction onto prepositions except for a few petrified expressions with adverbial functions. It is noteworthy, however, that even in these rare cases the root vowel usually had FP or brevity: Bg *dózemi* 'to the earth', *ótrəki* 'by the hand', *náglava* 'completely', U *ná ruku* 'in the hand', *ná nič* 'for the night', *ná smix* 'for fun'. Remnants of this shift are more frequent in R, and adverbialization is less complete (*pód goru* 'down hill', *ná bereg* 'to the shore', *zá gorod* 'out of town', etc.), but this usage is traditional and unproductive in R as well.

Thus the CS system of retracting the stress from the root vowel with FP or brevity onto the preposition survives only residually in the modern Sl languages; but the presence of certain remainders confirms its CS origin. Theoretically, the same should apply to prefixes. But in prefixed words one may expect even less consistency for levelings based on various types of derivation should have been much stronger. For example, in the subst fem in *-a* (with a few exceptions) R generalized the root stress, which may be assumed to have originally characterized the subst with RP on the root: *osnóva* 'basis', *zaséka* 'abatis', *proréxa* 'hole', *naživa* 'gain', etc.[11]. Sn usually has the stress on the same place, but it is ˆ, a stress shifted forward from the preceding syllable, i.e. the prefix. This means that the type which originally had FP on the root vowel has prevailed in Sn: *izmêra* 'measuring', *privâda* 'bait', *odpôra* 'opening', *naprâva* 'construction', etc. Cz, to judge by the distribution of lengths and brevities, generalized in the same direction as R: *přisada* 'admixture', *zásada* 'principle', *záchrana* 'deliverance'. But SC still reveals two types of stress. While instances with SC stress retraction are found corresponding to R and Cz facts (e.g. *òsnova* 'warp', *rázlika* 'difference'), other examples having the CS stress on the prefix, i.e. representing the type generalized in Sn are more numerous: *ȍbrana* 'defense', *zȁseka* 'abatis', *zȁslada* 'dessert', *pȍzlata* 'gilding', *zȁstava* 'banner' ,etc. It is hardly possible to establish in this category of subst, as represented in modern

[11] But cf. R. *návoloka* 'pillow case' to *vólok* 'fishnet', with original FP!

SC, any consistent connection between the stress place and the original intonation of the root vowel. But the very presence of two presently unmotivated types of accentuation in SC, as well as the difference between the facts of Sn vs. R and Cz, lead to the conclusion that the two types also were in use in CS. No semantic distinction between them may be found.

Prefixed subst masc reveal the two types of accentuation in all Sl languages with free stress, although a tendency toward unification has been also at work. In SC one still finds the type with CS stress on the prefix. This type is rare but it is significant that it usually occurs where the root vowel was short or had FP: *ȍbōd* 'rim', *ȍtok* 'island', *pȍklōn* 'gift', *ȉspad* 'attack' (cf. *pâd*, *pâda* 'fall'). The predominant and productive type is that with SC stress retraction, i.e. with CS root stress, e.g. *nágib* 'slope', *pògreb* 'funeral', etc. In R one finds *ómut* 'pool', *óbruč* 'hoop' (in agreement with Sn *obrôč*, SC *ȍbruč*, Bg *óbrəč*), *óblako* 'cloud' (formerly masc; in agreement with Sn *oblâk*, SC *ȍblāk*, Bg *óblak*), but the prevailing type is composed of subst masc with root stress, sometimes in disagreement with other Sl languages, e.g. R *požár* 'fire' vs. Sn *požȃr* (< **pòžar*), SC *pȍžar* 'forest fire'. In U and Bg the prefix stressed subst masc prevailed. This type of accentuation occurs with all root vowels but it is noteworthy that in both languages the root stress is more typical with originally short vowels. Cf. U *nápad* 'attack', *pópyt* 'demand', *zákyd* 'reproach' vs. *potík* 'stream', *zamét* 'snow drift', *perevíz* 'transfer'; Bg *zárez*' notch', *dódir* 'wear', *óbed* (and *objád*) 'dinner', *pókaz* 'showing' vs. *poróј* 'shower', *poklón* 'bow', *zapór* 'interdiction'. However, in both languages cases of prefix-stress with originally short root vowels are not rare, e.g. U *záxid* 'west', *póxid* 'march'; Bg *dóxod* 'income', *prénos* 'transference', *rázgovor* 'talk', etc.

The intricacy and obscurity of these facts resulting in vacillations is due to an interplay of morphological factors: influence of verbs, influence of substantives with suffixes: words of this type arose in different epochs, following the predominant patterns of the time; some may be loan words from other Sl languages. In general one has an impression of a category which having had a phonetically motivated stress distribution, lost this motivation, with the loss or radical regrouping of intonations, and then, having to search for a morphological motivation, became instable, occasionally attributing certain words to other types than expected. It is impossible to trace every individual stress in this category back to CS. The only fact which may be firmly established is that CS had two types of stress in this case. The most logical explanation of this fact would ascribe the two types of accentuation to the early CS system of opposition in length and pitch, no longer extant in any modern Sl language or even in late CS (See 32 and 33). The analogy bids itself with the better maintained stress-retraction principle in the groups preposition + substantive, although this, too, is found only in relics. The acceptance of this view necessitates the admission of stress retraction from roots with FP or brevity onto the prefix of subst in early CS.

Another argument favoring of this assumption may be drawn from the stress distribution in subst fem ending in a consonant (*i*-stems). The relations

in this group are not original either, but their divergence from the other types of subst shows that the point of departure must be sought somewhere between the two types of the modern distribution. In the fem group one finds stressed prefixes in the examples like R *póvest'* 'story', U *póvist'*, Sn *povêst*, SC *pȍvēst*, Bg *póvest*; R *zápoved'* 'commandment', U *zápovid'*, Sn *zapôved*, SC *zȁpovēd*, Bg *zápoved*; R *pómošč'* 'help', U dial *pómič*, Sn *pomôč*, SC *pȍmōć*, Bg *pómošt*, etc. This type spread to the roots with RP on their vowels, as in R *róssyp'* 'mine', possibly *própast'*. In R *pogíbel'* 'ruin', U *zahýbel'*, Bg *pogíbel*, with RP, the old type is still maintained; it succumbed, however, to the predominant type in SC *pȍgībao*, Sn *pogîbel*. Cf. also R, U *napást'* 'misfortune', SC *nápast*, but Sn *napâst*, Bg *nápast*.

The main lines of the development of accentuation in prefixed words may be represented in three stages:

1. In nouns the stress is shifted from roots with FP or brevity onto the prefix of any intonation; but is not shifted from the root with RP:

SC *pȍklōn* vs. *zárez* (< CS **zarʹéz-*)

2. In verbs, where prefixes were more independent and loosely connected with the roots, this stress shift, if it took place at all[12], was eliminated. Hence a discrepancy arose: verbs with non-prefix stress vs. nouns with two types of stress: either on prefix or not. This contributed to the instability of noun stress. In particular —

3. New nouns derived from verbs joined the root-stressed type disregarding the root vowel intonation. In the general reshuffling of relations which ensued, a distribution apparently opposite to that of the stage 1 could have arisen:

Bg *poklón* vs. *zárez*.

Opposition in the treatment of accentuation in nouns and verbs is manifest even in those Sl languages which lost their phonemically relevant stress; e.g. in Sk verbal prefixes as a rule have short vowels, while nominal prefixes are characterized primarily by long vowels: *dokázat'* 'prove' vs. *dôkaz* 'proof', *dorazit'* 'hit' vs. *dôraz* 'emphasis'; and prefixes which are only nominal virtually always have long vowels, as e.g. *sú-*: *súdruh* 'comrade', *súvaha* 'balance'.

A specific category of Sl nouns still preserves a trace of the situation typical of the second stage: a peculiar mutation of FP into RP. In the subst which, presumably at that time, were derived from verbs whose root vowel had FP or was short there was a tendency to preserve the non-prefix stress, just as in the verb. But at the time this was the pattern for RP only. Hence, the price paid for retention of the root stress was the change of pitch on the root vowel into RP. Survivals of this type are found in such examples as R *ogoród* 'kitchen-garden' vs. *górod* 'town' (via *ogorodít'* 'fence'), *pozolóta* 'gilding' vs. *zóloto* 'gold' (via *pozolotít'* 'gild'), cf. SC *pȍzlata* vs. *zlȃto* with a more archaic relationship; R *oboróna* 'defence' vs. *boroná* 'harrow' (cf. SC *ȍbrana* vs. *brána*), *povorót* 'curve'

[12] SC examples of the type *zàklēti* vs. *kléti* 'curse', *slȏmīm* vs. *lòmīm* 'break' may be remnants of the time when prefixes influenced stress place in the verbs, too, though not taking the stress on themselves.

vs. *vórot* 'windlass', *umolót* 'yield (of grain)' vs. *mólot* 'hammer', *vperëd* 'ahead' vs. *péred* 'in front of'; U *oxoróna* 'guard', *zahoróda* 'fence' (Bg *zagráda*) vs. *xoronýty*, *horodýty*. This relation was transferred even on such pairs as R *góvor* 'sound of talk' vs. *razgovór* 'talk' and perhaps *ruká* 'hand' vs. *porúka* 'bail', etc.

The main objection to the assumption of CS stress retraction from root vowels with FP or brevity onto prepositions and prefixes is that stress retraction onto prefixes is well known in IE (Cf., e.g., Gr ὄψις 'look' vs. εἴσοψις 'spectacle'), and therefore could not have been a Sl innovation. If this is correct the retraction was not connected with FP or brevity and may have operated from any vowel. Although the evidence of the Mo Sl languages is ambiguous, the original distribution still may be unearthed. And if it is clearly conditioned by intonation in the syntactic groups of preposition + noun, it is very probable that it was regulated by an identical rule in the case of prefixes. There is also a more general reason for objecting to the exclusively inherited character of the prefix stress in CS. See 4,14.

10. Fortunatov's law. Fortunatov's law stating that in CS stress was shifted from FP and short vowels onto the following syllable if it had RP, was used primarily to explain R, Sn and SC paradigms with mobile stress, as well as the distribution of stress in many a morphological category to which this law was applied.

a. Nom sg fem in *-a* as opposed to the nom sg neut (in adj) or/and acc sg fem, e.g. SC Čak *novȁ* : *nȍvo* 'new', R *nová* : *nóvo*, cf. Li *naujà* : *naũjas* (masc sg); SC Čak *drāgȁ* : *drâgo* 'dear', R *dorogá* : *dórogo* (Le *dãrgs* 'expensive'); in participles SC *píla* 'drank' : *pȉo* (masc), R *pilá* : *pílo* (neut), Sn *píla* : *pîl* (masc); SC Čak *umrlȁ* : *ȕmrlo* 'died' (with middle stress retracted onto the initial syllable in accordance with Hirt's law), R *umerlá* : *úmerlo*; in subst SC *strána* 'side' : *strânu* (acc sg), Čak *strānȁ* : *strânu*, R *storoná* : *stóronu*; SC *gòra* 'mountain' : *gȍru*, Čak *gorȁ* : *gȍru*, R *gorá* : *góru*, Sn *góra* : *gorô*.

RP also characterized *-a-* in the endings of the dat pl *-amъ*, instr. pl *-ami*, loc pl *-axъ* (*ā*-stems). Therefore, nouns with FP or brevity on the root vowel also stressed this *a*: SC Čak dat pl *strānán*, *gorán*, instr pl *strānȁmi*, *gorȁmi*, loc pl *strānȁh*, *gorȁh*, R resp. *storonám*, *gorám*; *storonámi*, *gorámi*; *storonáx*, *goráx*. In R this situation is obscured by a morphologically conditioned tendency to generalize the initial stress in pl as opposed to the desinential stress in sg (hence the variant *stóronam*, *stóronami*, *stóronax*, to date substandard), in standard SC by merger of the dat, instr and loc pl with the dat-instr of dual (the common form being *stránama*, *gòrama*).

In the ending of the nom pl of neuter nouns *-a* also had RP. It is supposed to be the same ending genetically, since the nom pl of neuters was originally a collective sg. Consequently, this ending drew the stress on itself. Now this is partly superseded by a rather consistent tendency developed in the neuters to have a stress opposition between the pl as a whole and the sg in R, and to unify the two numbers accentually in Čak. Cf. SC *pȍlje* : *pòlja* 'field' (but Čak *pȍļe* : *pȍļa*, like *dȅlo* : *dȅla*), R *póle* : *poljá*. For more detail see 33,7.

b. Nom du masc in *-ō* (in the attested Sl, changed as expected into *-a*). Sl

languages data of the historical period are contradictory. Sn, the language which has preserved both the du and intonations, has forms of the type *gradâ*, *mostâ* 'bridge' < **grâda, mòsta*; but in dialects forms like *gráda*, *mǫ́sta* (Brdo) are known, which go back to **gradá*, **mostá*. In R the du masc as a rule merged in its accentual type with the gen sg, e.g. *dva góroda, dva mósta*, but there are characteristic exceptions with final stress in *dva* constructions as opposed to the gen sg root stress: *dva šagá* 'step', *rjadá* 'row', *časá* 'hour' vs. gen sg *šága, rjáda, čása*. Of these three words *šag* probably, and *rjad* undoubtedly, had FP (Sn, SC *rêd*, Bg *redə̀t*). The situation in modern R may be traced back to the seventeenth century. In *Uč i xitr* (1647), *rjad* is found in the gen sg 22× with root stress (*rjáda* ~ *rjádu*) vs. 3× with final stress, but after numerals the ratio is changed to 36× vs. 27× (Kiparsky). These statistics reveal a certain confusion of the two forms understandable after the loss of the du and the gravitation of the old du forms to the gen sg; at the same time they show that in this particular word the final stress of the du was never lost and, after a period of fluctuations reasserted itself in R.

It is also possible that some remnants of the du entered the category of pl masc in *-a* which arose in MR, although in general the crucial part in the formation of this new category was played by the accentual pattern of subst neut. Possible remnants of the du are *beregá* 'banks', *rogá* 'horns', *okoroká* 'ham' (originally 'legs'').

Of special importance in considering the original intonation of the final vowel in the nom du masc is the word meaning 'both'. Its forms contradict the assumption of RP on the ending and the operation of Fortunatov's law in R *óba*, SC *ȍba*, Sn *obâ* (< **òba*), Bg *óba*; but one finds in U dial (West) *obá*, in Br dial *abá* (Smolensk), and Sn dial (Rezija) *òba*. The latter forms have their exact counterpart in Li *abù*. The initial stress in the other forms, probably dialectal CS, may have resulted from a leveling with the forms of *dъva, dъvě* 'two' which in late CS had their stress on the first syllable as indicated by FP in Sn, SC *dvâ, dvê* (See 33,8).

In general, in the nom du of subst masc with original FP or brevity on the root vowel, the facts are confused because of the decline of the du. But the forms which point to an original non-final stress, although more numerous, are easily derivable from the forms of du with final stress, while those which indicate an original final stress (like R *dva rjadá*) are unmotivated in later stages and may be understood solely as remnants of an obsolete situation. Therefore, one has rather to assume that in accordance with Fortunatov's law in early CS the final vowel had RP and was stressed in the words whose root vowel had FP or was short.

c. Loc sg of *u*-stems in *-u* (< **ōu*), of *i*-stems in *-i* (<**ēi*), of *ā*-stems in *-ě* (<**āi*). The stress shift connected with the endings *-u* and *-i* is still well attested in SC, R, U, and Sn, e.g. SC *grâd*, gen sg *grâda*, loc sg *u grádu*; *brôd* 'ship' : *brȍda* : *na bròdu*; *vlâst* 'power' : *vlâsti* : *na vlásti*; *kôst* 'bone' : *kȍsti* : *u kòsti*; R *béreg* 'bank' : *bérega* : *na beregú*; *rod* 'kin' : *róda* : *v rodú*; *grud'* 'chest' : *grúdi* : *v grudí*; *kost'* : *kósti* : *na kostí*. In U cf. loc sg *u snihú* 'snow', *u bojú* 'battle'

(gen sg *sníhu*, *bóju*); in Br the forms with the desinential stress are maintained mostly in petrified (adverbialized) phrases only, e.g. *na xadú* 'in motion', *unačý* 'in the night' (and *unóčy*). Sn reflects the CS stress shift by a pitch change in the loc sg, as opposed to the other cases, going back to a change in the accent place : *glâs* 'voice' : *v glásu* (<**glasú*), *brôd* 'ford' : *na bródu*; *kôst* : *v kósti*.

The ending of the loc sg, in *ā*-stems -*ě* (<**āi* < **a*H-*i*) also goes back to a long diphthong and, therefore, one expects it to attract the stress on itself, in contradistinction to -*ě* (< **ai*, regular diphthong) in dat sg where the stress should be on the stem. In fact, SC, both standard and Čak, shows remnants of such a distribution of stress but only in a few relic forms: SC loc sg *glávi* 'head' vs. dat sg *glâvi*, and accordingly *vójsci* : *vôjsci* 'army', *rúci* : *rûci* 'hand', *dúši* : *dûši* 'soul', *vòdi* : *vȍdi* 'water', *dèci* : *dȅci* 'children', *zèmlji* : *zȅmlji* 'earth'; Čak (Novi) *nogȉ* : *nȍgi* 'foot', *dicȉ* : *dȉci* 'children'. In other *ā*-stem subst this distinction between the dat and the loc sg is lost and the stress of the loc sg (which is the stress of the nom sg as well) is generalized. This same situation prevails in the other Sl languages: the two cases coalesced completely. However, in MR isolated examples of the opposition dat sg vs. loc sg are found, e.g. *kъ Móskvě* vs. *na Moskvě́* in *Uloženie* of Aleksej Mixajlovič (1649), and also in some R dialects of present day, e g. in Tot'ma dat sg *k zíme* 'winter', *k stórone* 'side' vs. loc sg *o zimé*, *na storoné*.

The infinitive ending -*ti* developed from *-*tēi* which originally was the ending of the loc sg. The accentual relations in disyllabic infinitives are as expected according to Fortunatov's law: verbs having a root vowel with RP have root stress, those with FP or brevity stress the ending, e.g. R *vezti* 'convey', SC *vèsti* 'embroider', Sn *vésti* (both from *vezti*); R *trjastí* 'shake', SC *trésti*, Sn *trésti* (both <**trę̂stí*), Sk *triast'* — vs. R *dat'* 'give' (< *dáti*), SC *dȁti*, Sn *dáti*, Sk *dat'*; R *kolót'* 'prick', SC *klȁti*, Sn *kláti*, Sk *klat'*. (P and Cz generalized forms which reflect original final stress for virtually all disyllabic infinitives: Cz *dáti*, *kláti* like *třásti*, P *trząść*).

d. Dat-instr du with RP on its desinential vowel also had a stress shift from FP or brevity onto the ending as is seen in SC *dvéma* 'two', *tríma* 'three', Sn *dvéma*, R *dvumjá*, *tremjá*, Br *dvumá*, *trymá*, U *dvomá*, *tr'omá*.

e. In subst neut in -*ę* the final *ę* is probably from **ēn* and if so, is supposed to attract the stress from the preceding FP or brevity. This type of subst underwent extensive morphological levelings: the mobility of the accent was lost, and in ESl one type of accentuation was generalized, namely in *nt*-stems the final columnal stress (Br *jahnjá* 'lamb' : pl *jahnjáty*, *cjaljá* : *cjaljáty* 'calf', U *jahnjá* : *jahnjáta*, *teljá* : *teljáta*; R pl only *jagnjáta*, *teljáta*) whereas in *n*-stems the root stress was generalized in sg (R *sémja* 'seed', *ímja* 'name', *plémja* 'tribe'; Br *sémja*, *plémja*; U *símja*, *plémja*) and only Br *imjá*, U *imjá* (attested with this stress since the seventeenth century) allude to the presence of differing accentual patterns in the past. In R of the sixteenth-eighteenth centuries *plemjá* is well attested.

More variety is found in SSl. Bg generalized initial stress in *n*-stems (*vréme* 'time', *íme*, *pléme*) but in *nt*-stems opposes the type *ágne* 'lamb' : *ágneta*, *játe*

'kid' : *járeta* to the type *kozlé* 'kid' : *kozléta. telé* 'calf' : *teléta, prasé* 'shoat' : *praséta,* with vacillations in such cases as *kóte* ~ *koté* 'kitten'. In SC *n*-stems generalized the type *ȉme* : gen sg *ȉmena*, the older variety being implied only by the original final stress in *vréme* (gen *vrȇmena*), but in *nt*-stems it still distinguishes the type *jàgnje* : *jàgnjeta* with original root stress, from that with the original final (theme) stress: *tèle* : *tèleta, zvére* 'wild beast' : *zvèreta*. Finally, Sn reveals three types of accentuation in *n*-stems: *imȇ* : gen sg *imȇna*; *séme* : *sémena*; and *pléme* : *pleména*; and three types in *nt*-stems: *jágnje* : *jágnjeta*; *téle* : *teléta*; and *prasè* : *praséta*.

On the basis of these distributions it is rather difficult to reconstruct the original system. It is, however, clear, that in the languages which preserve several types of accentuation those subst whose root vowels had RP continue predominantly the root stress (Bg *ágne*, SC *jàgnje*, Sn *jágnje*) while those which had a vowel with FP (Bg *prasé*, SC *zvére*, Sn *prasè*) or brevity (Bg *telé*, SC *tèle*, Sn *téle*) tend to the desinential stress. Thus, Fortunatov's law may be assumed to have operated, although it does not necessarily explain every individual case.

f. 1 sg pres had the ending -*ǫ* < *ōN. According to Fortunatov's law an advancement of accent is expected from the root vowel with FP or brevity, while the root stress would be maintained in other persons. This distribution is in fact found in ESl, e. g. R *tonú* 'drown' : *tónet. pišú* 'write' : *píšet, deljú* 'divide' : *délit*; Br *tanú* : *tóne, pišú* : *píšė, dzjaljú* : *dzélic'*; U *tonú* : *tóne, pyšú* : *pýše, diljú* : *dílyt'*. In Bg stress mobility is lost in pres. In the other Sl languages which might give useful clues, the situation is obscured by the fact that the ending -*ǫ* is completely or partly replaced by the endings -*am*, -*im*, -*em* in 1 sg, and that the stress became columnal.

However, the major difficulty in assessing Fortunatov's law is not this, but the appearance of the so-called NRP in late CS, another intonation on the root vowel in 2 sg and further pres tense forms instead of the expected FP or brevity. NRP (new rising pitch) usually occurs on those syllables which attracted the stress from the next syllable. The NRP on the root vowel of the verbs in question is also attested on *o* in R dialects which reflect it by substituting *ô* [ọ] for *o*. This implies that other persons, besides the 1 sg, also had stress on the syllable following the root. See the more detailed analysis of these contradictions in 33,11. It may be stated here that despite this contradiction, the facts of the pres do not exclude the validity of Fortunatov's law[13].

g. -*i* ending in 2 - 3 sg imp is generally assumed to have had RP although it goes back to a diphthong *oi*[14]. The facts of the Sl languages generally meet the

[13] It is hardly due to mere chance that most verbs with mobile stress in their present tense forms had FP or brevity on their root vowel. For R, e.g., the Academy Grammar gives a list of verbs with mobile stress encompassing 151 verbs (I, 477). 130 of them have root vowels with original FP or brevity and only 21 take exception to that. This is true in all the other Sl languages as well.

[14] To explain the RP of this vowel one may assume its blending with -*i*- suffix of pl opt of athematic verbs or theorise that an intonational mutation was caused by the affective nature of the imp (See 20, 4).

requirements of Fortunatov's law, i.e. verbs with RP on root vowel stress the root, while those with FP or brevity stress the ending: R *řež'* 'cut' (< *rě̃zi*) vs. *trjasí* 'shake', *nosí* 'carry'; SC *rȅži* vs. *trési*, *nòsi*.

h. In trisyllabic words, the stress falls on the middle syllable if its vowel had RP while the vowel of the first syllable had FP or brevity. Most examples are supplied by verbs (infinitives) with the suffixes *-a-*, *-i-*, *-ě-* (< *ē*), *-nǫ-*, all of which had RP on the suffix vowel. Cf. SC *rȅzati* (1 sg *rȅžēm*) 'cut' vs. *písati* (*pîšēm*) 'write', *òrati* (*ȍrēm*) 'plough' and correspondingly Sn *rézati* vs. *oráti* and R *rézat'* vs. *pisát'*, *orát'*; SC *lȁziti* (*lȁzīm*) 'climb' vs. *túžiti* (*tûžīm*) 'complain', *vòditi* (*vȍdīm*) 'lead' and correspondingly R *lázit'* vs. *tužít'*, *vodít'*. In Sn *láziti* (*lâzim*) vs. *vóditi* (*vǫ́dim*) in which open *o* in the infinitive shows that the stress was retracted from *i*. Further: SC *vȉdeti* (*vȉdīm*) 'see' vs. *opústeti* (*opústīm*) 'become deserted', *gòreti* (*gòrīm*) 'burn' and correspondingly Sn *vídeti* vs. *gorẹ́ti* and R *vídet'* vs. *opustét'*, *gorét'*; SC *kȉsnuti* (*kȉsnēm*) 'to sour' vs. *mínuti* (*mînēm*) 'pass by', *tònuti* (*tȍnēm*) 'sink' and correspondingly Sn *kísniti* vs. *miníti*, *toníti* and R *kísnut'* vs. *minút'*, *tonút'*.

The general rule of middle stress after the roots with FP or brevity is partly marred in verbs by morphologically conditioned levelings; in unmotivated (isolated) words the rule is followed fairly consistently, which is a very important testimony. Cf. SC *gòvedo* 'cattle', *lòpata* 'spade', *gòmila* 'heap', *čètiri* 'four', *kòpito* 'hoof', *mòtika* 'hoe', *kùpina* 'bramble'; Sn *govẹ́do*, *lopáta*, *gomíla*, *četírje* (> *štírje*), *kopíto*, *polẹ́no* 'log', *kopína*; Bg *govédo*, *lopáta*, *mogíla* 'hill', *kopíto*, *motíka*, *kəpína* (but *čétiri*); R *govjádina* 'beef', *lopáta*, *mogíla* 'tomb', *četýre*, *kopýto*, *motýka*, *poléno*, *kupína* (and *kupiná*). On the other hand, cf. the type with initial stress if the middle syllable did not have RP: R *ózero* 'lake', *jágoda* 'berry', *véselo* 'gay' (neut), etc.

11. Criticism of Fortunatov's law. The types of words presented in section 10 comprise those whose stress place and stress shifts (if the stress is mobile within the paradigm) find their possible explanations in Fortunatov's law. The number of categories is fairly high. Notwithstanding, the validity of Fortunatov's law is still debatable and many an outstanding scholar disavows the law ever operated in Sl. The objections are twofold: of a typological, i.e. general character; and of factual nature.

The typological objection, as shown in 4, 8, follows from the denial that a language may have both free stress and phonemically relevant pitch on every syllable. If accepted, this view deprives Fortunatov's law of its very foundation. We shall return to this consideration in 4,14.

The factual objections denying the validity of Fortunatov's law for CS refer to those facts of the historically known Sl languages which contradict this law. These include three groups of facts.

A. There are words which have all the conditions for the operation of Fortunatov's law but do not advance their stress onto the next syllable with RP. These deviations are twofold: a group of tri- and polysyllabic words which

keep the stress on their middle syllable having short vowel; and a solid group of subst fem which in CS had the suffix -*i̯*-.

For the first case many scholars (e.g. Lehr-Spławiński, Stang) assume that short vowels in the middle syllable acquired a special short RP which precluded the stress shift. This assumption would, however, make incomprehensible those cases, much more numerous, in which the stress was placed in complete accordance with Hirt's and Fortunatov's laws, e.g., to take nominal examples: R, Bg *jágoda* 'berry', Sn *jágoda*, SC *jàgoda*; U *láhoda* 'harmony', Sn *lágoda*, SC *làgoda* in agreement with Hirt's law; R *slobodá* 'settlement'[15], Bg *svobodá* 'freedom', Sn *svobóda* (<**svobodà*), SC *slobòda*; R *lobodá* 'lamb's quarters', Sn *lobóda* (<**lobodà*), SC Čak *lobodȁ*, [16] in accordance with Fortunatov's law. Instances which have apparently not shifted stress from the penultimate syllable are much fewer. However it is interesting that some of these cases show strong vacillations in the Mo Sl languages, e.g. R (from ChSl) *peščéra* 'cave', Br *pjačóra*, U *pečéra* but Bg *pešterá* (and *péštera*); R *utróba* 'maw', P *wątroba* 'liver' (<**ǫtròba*), Sk, Cz *útroby* with the length of *u* showing that it was in the pretonic syllable (See 32.5) but SC *ȕtrobica*, Sn *otróba* (<**ǫtrobà*). There are instances in which the testimony of the Sl languages is unanimous, as R *gotóva* 'ready' (fem), Br *hatóva*, U *hotóva*, Sn *gotọ̑va*, SC *gòtova*, Bg *gotóva*; R *rabóta* 'work', Br *rabóta*, U *robóta*, Sn *rabộta*, SC *ràbota* (but Bg *rábota* and MU *rabotá*). etc. However, these words are either derived with suffixes (as R *rabóta*) or are probable borrowings from other languages (as R *gotóva*), and in either case they belong to a later, although still CS, layer in Sl vocabulary. One has to assume that these words entered, or were formed in, Sl after Hirt's and Fortunatov's laws ceased operating.

This is also true of prefixed subst of the type of R *osnóva* 'basis'. *oxóta* 'wish', U *zalóha* 'harrison', *opóna* 'tire', SC *òsnova*, *záloga*, *òpona*.

The second case may be represented by such examples as R *vólja* 'will', *súša* 'dryland', U *storóža* 'watch'; SC *vȍlja*, *sȗša*, *strȃža* (More examples in 33, 13a and 13b). The root stress, however, is not an absolute rule in the subst fem with the suffix -*i̯*-. There are about a half a dozen words with this suffix which have mobile or fixed final stress, exemplified by R *dušá*, acc sg *dúšu* 'soul', *zemljá*, acc *zémlju* 'earth', *mežá*, acc sg *mežú* 'boundary'; SC *dúša*, *zèmlja*, *mèđa* (Other examples in 33,13).

There are compelling reasons to assume that the words with the suffix -*i̯*- of the type of R *vólja* originally did follow Fortunatov's law, i.e. did advance their stress onto their endings in the nom sg. Their present root stress is connected with the so-called NRP (See 33,13) which was an innovation of late, disintegrating CS. NRP, as said, developed as a result of stress retraction from the following syllable onto the preceding one. Hence, the very presence of NRP may be considered an indirect indication of the erstwhile final stress in the words under scrutiny. In addition, Li points explicitly to final mobile stress

[15] R *svobóda* has a secondary stress from the acc sg or from the adj *svobódnyj*.
[16] Bg *lóboda* has the stress of the acc sg.

in some of these words, e.g. *valià*, acc *vãlią* 'willpower', *dalià*, acc *dãlią* 'part', cf. R *dólja* 'share', *našà*, acc *nãšą* 'burden', cf. R *nóša*. For CS before the development of NRP the same pattern may be presumed in these words. The whole evolution may be presented in three stages:

1. Before Fortunatov's law: **vòlja*, acc **vòlja*N
2. After Fortunatov's law but before the NRP: **voljá*, acc **vòlja*N
3. After the NRP developed: *võlja*, acc *vòljǫ* (using ˜ as a mark of NRP).

An explanation is actually not required for these fairly numerous words, but rather for those of the type R *zemljá*, *dušá* which preserve the pattern established by Fortunatov's law. The question is why did they escape the mutation which caused NRP.

Generally speaking, one must bear in mind that the difference in stress place in the paradigm of sg with mobile stress between the acc (and dat) on the one hand and all the other cases had no morphological value and thus was constantly being obliterated through levelings in both prehistorical and historical Sl. In Mo Br, Sk, and Cz there are no traces of the original variety in stress places: Br *dušá* : *dušú*, *zimá* : *zimú* 'winter', Cz *duše* : *duši*, *zima* : *zimu*. The leveling most often proceded on the basis of the nom sg as in R *mežá* : *mežú* instead of the older *méžu* (Cf SC *mèđa* : *mȅđu*). But occasionally the stress of the acc sg was taken as the basis for leveling, as in R type *slúžba* : *slúžbu* 'service', *prós'ba* : *prós'bu* 'request' instead of the expected **službá*, **pros'bá* as attested by SC *slȕžba*, *žȕrba* 'rush'[17] (originally trisyllabic). SC *dȍba* 'time', *čȅta* 'detachment', *kȍra* 'bark', *sȍva* 'owl' have the generalized stress of the acc sg (Cf. R *korá*, *sová*, U *dobá*, *čotá*) throughout their entire paradigms and so has Bg in its *zíma* 'winter' *srjáda* 'Wednesday', *glóba* 'fine', *dóba* 'time', *čéta* 'detachement' (and many more in Bg dialects). Thus, switches from the type with fixed stress to that with mobile stress and vice versa are not to be ruled out, particularly if the word had a root vowel with FP or brevity.

While other words with *-i̯-* suffix (*volja*-type) belonged to *ā*-stems those of the type *zemljá* : *zémlju* mainly belonged to the (*i̯*)*ē*-stems, as some of their counterparts in Li (e.g. Li *žẽmė* 'earth'), with FP on the nom sg endings (cf. Li *pelẽ* 'mouse', *katẽ* 'cat'); these should not attract the stress, therefore escaping the action of Fortunatov' s law. The new ending *-a* in the nom sg and the ensuing reshaping of the paradigm may have been introduced quite early but not before Fortunatov's law ceased operating; thus the forms of the type a nom sg **zèmi̯ē*, later **zèmi̯ā* and an acc sg **zèmi̯a*N both had root stress. When NRP arose in Sl at a much later date (See 33,13) it did not affect the words of this type for they had no final stress. The development of NRP, however, brought about certain confusion and subsequent substantial shifts in the accentual pattern of the declension of subst fem. While in the words with NRP in the nom sg this

[17] And even in SC, where the stress place is that of the nom sg the brevity of the vowel possibly stems from the acc; if so, this shows that the nom was influenced by the acc. On the other hand, for R, the stress of the adj *služébnyj* (and not ⁺*slúžebnyj* as should be to *slúžba*) reveals the older not attested stress **službá*.

pitch was generalized (albeit not in all of them) the few subst in *-ja* which did not develop NRP became quite isolated. Since their acc sg had the same accentual pattern as the subst which followed Fortunatov's law (Cf. Li *pẽlę, kãtę*) most of them converted to that type: **zèmja* : *zèmjǫ* became *zemljá* : *zèmljǫ* like *vodá* : *vòdǫ*.

Thus, neither the deviations of the type R *vólja* nor the deviations from these deviations, the type *zemljá*, abrogate Fortunatov's law.

B. An objection of broader consequence to Fortunatov's law in Sl is that some endings which are supposed to have RP in accordance with their IE origin do not attract the stress from the preceding brevity or FP, that is they act as if they had FP. This problem primarily concerns the acc sg of *ā*-stems; also the nom sg in *-y* of consonantal (*n-*) stems has been considered in this connection.

The acc sg ending of *ā*-stems had the long vowel in IE, as attested for example by OI *-ām*, Gr -ᾱν (τήν, τιμήν). By definition, this should give *-*ā*N with RP in CS, but judging by the cases of the type R *zimá* but acc *zímu* it did not. Li agrees in this with Sl. The Li acc sg ending *-ą* never bears stress in subst, e.g. *rankà* 'hand' but acc sg *rañką*, *žiemà* 'winter' but acc sg *žiẽmą*, and in monosyllabic pronouns there is FP accordingly: nom sg fem *tà* 'this' vs. acc sg fem *tą̃*. Le has the same opposition in intonation between the nom sg fem *tã* and the acc sg fem *tùo*.

The difference in the intonations of the acc sg endings in subst fem between Gr, which in this instance continues IE, and Balt and Sl cannot be relegated to any phonetic changes in Balt and Sl. The reason must be sought in morphology. The presence of IE doublets in the acc sg ending of *ā*-stems is possible: *-ām* and *-am*. In Gr both the ending -ᾱν and the ending -αν are known; CS could have generalized this variant of the ending which, incidentally, in IE might have been more ancient than *-ām*[18]. This assumption however is in conflict with the treatment of the final nasal in this ending (See 15,2 and 22,12). Another explanation is therefore to be preferred according to which FP in the acc sg ending of *ā*-stems could have arisen within CS. As shown in A, Sl historical morphology reveals a complicated interplay of the endings of the nom and acc and/or their intonations which was taking place continuously at various stages of the language development. Without going into details it is enough to refer to the situation in the pl of *ā*-stems where the ending of the nom pl *-y* is probably transferred from the acc pl (<IE *-āns*); but the FP on the ending is that of the old nom pl (Cf. Li nom pl *rañkos* with FP vs. acc pl *rankàs*, with RP). Thus, FP appeared in the acc pl of *ā*-stems. Also acc pl of *o*-stems, *u*-stems and *i*-stems had FP on endings. One may suppose that in CS FP became a characteristic of the accusative case for a certain time. This might account for the emergence of FP in the acc sg of *ā*-stems.

In the nom sg ending *-y* of the *n*-stems, Sl again shows FP, as attested by Pb *komói̯* < *kámy* 'stone'. Li also has the reflexes of FP: *akmuõ* 'stone', *piemuõ*

[18] Length of *-ā* comes from the nom sg where it resulted from the loss of laryngeal H which was the ending of this case: **a* + H > *ā*. The ending of the acc was -N.

'shepherd', while Gr points to RP: χειμών 'winter'. The Sl evidence of this category is very limited because this type of subst is attested as a rule only in those Sl languages which cannot be used for reconstructing CS intonation. More specifically, there are no clear examples with brevity or FP on the root vowel where Fortunatov's law could have operated. The explanation of FP in the ending must be sought again in morphology. But for the acceptance or rejection of Fortunatov's law, the case is irrelevant.

C. An objection was raised that Fortunatov's law does not explain the stress shift over several syllables in polysyllabic words of those types in which disyllabic words have accent shifts onto the adjacent syllable. Thus the shift over the middle syllable in R *véselo* : *veselá* 'gay' corresponds to the accent shift R *nóvo* 'new' (neut) : *nová* (fem). The shift R *skovorodá* 'frying pan' : *skóvorodu*, Čak *dobrotȁ* 'goodness' : *dȍbrotu* presents an analogy to *storoná* : *stóronu* (acc). The stress shift over the middle syllable in R gen sg *véčera* 'evening' : nom pl *večerá* corresponds to R gen sg *róga* 'horn' : nom pl (originally du) *rogá*. Cf. also R (ChSl) *gráždane* 'citizen' (nom pl) vs. *graždanín* (nom sg), R *nébo* 'sky' vs. nom pl *nebesá*, *kósti* 'bone' (nom pl) vs. instr pl *kost'mí* (< *kostĭmī*).

Pedersen attempted to extend Fortunatov's law to these cases as well. He tended to assume that the stress shifted from a short vowel or a vowel with FP onto the following vowel with RP skipping all the intermediary syllables with brevity or FP. However the objection was raised that in Li the corresponding law does not operate over a middle syllable: while *pir̃štas* 'finger' has the instr sg *pirštù*, acc pl *pirštùs* the trisyllabic word *kãtilas* 'boiler' preserves the same stress place in both cases: *kãtilu*, *kãtilus*. But this objection is not decisive: the law under discussion was not necessarily identical in Li and Sl. The fact that its traces cannot be discovered in Le (see section 15) is one more proof that it was not Balto-Sl.

Otherwise, Pedersen's opponents, primarily Kul'bakin, succeeded only in showing that many examples cited by Pedersen can be explained differently (mostly by Hirt's law), but no one was able to refute Pedersen's amendment to Fortunatov's law. It may be upheld for Sl[19].

D. Fortunatov's law is based on the assumption that RP was originally a concomitant of long monophthongs and diphthongs while FP was found on regular diphthongs. However, a number of words had FP on originally long monophthongs. From a morphological point of view these words constitute three main groups: subst masc, subst fem ending in a consonant, and adj (including participles).

[19] Thus, in trisyllabic words stress shifts over the middle syllable are typical of the old stratum of the phenomenon; shifts within the two final syllables belong to the later period when final *jers* lost their stressability, the original middle syllable became stressed in the forms ending in a *jer*, and that stress was then generalized. To take an example from R, the opposition *ózero* 'lake' vs. pl *ozerá* (as represented still in Puškin and Vostokov) is older; when **ozerъ̀* became *ozër* this stress was transferred onto other forms of pl and so the new type *ózero* : *ozëra* arose, the only normal in Mo R.

Subst masc with FP on a vowel that continues a CS monophthong are represented by such examples as SC *sîn* 'son', Sn *sîn*, *sinû*, Bg *sinə́t*, Cz *syn*, (<IE **sūnus*, cf. Li *sūnùs*, OI *sūnúṣ*); R *val*, loc *valú* 'billow, bank', SC *vâl*, *vâla*, Sn *vâl*, *valû*, Cz *val*; R *var* 'boiling water' (cf. the shifted stress in *varít'* 'cook'), SC *vâr* 'whiteheat', Sn *vâr*, Cz *var* 'boil'; R *sad*, loc *sadú* 'garden', SC *sâd*, *sâda* 'plantation', Sn *sâd*, *sadû* 'fruit'. The origin of this FP is morphological and, consequently, secondary. These words belonged to the *u*-stems. In this type of declension a typical pattern of accent shifts developed regularly in those nouns which had brevity or FP on the root vowel, in accordance with Fortunatov's law. Cf. in Mo R *dom* 'house', *verx* 'top', *mëd* 'honey', *mir* 'world' – gen sg *dóma*, *vérxa*, *mëda*, *míra* – loc sg *domú*, *verxú*, *medú*, *mirú* – nom pl *domá*, *verxí*, *medý*, *mirý*). Evidently in all the *u*-stems long root vowels obtained FP following this pattern[20].

This assumption is confirmed by the fact that *u*-stems derived from verbs with RP on their root vowels also have FP. Cf. SC *stân*, *stâna* (loc sg *stánu*) 'apartment', Sn *stân*, *stanû* 'building', Bg *stanə́t* 'camp', Sk Cz *stan* 'tent', but the verb SC *stȁti* 'stand', Sn *státi* 'appear', Cz *státi se* 'occur'; SC *dâr* 'gift', Sn *dâr*, Cz *dar* but SC *dȁti* 'give', Sn *dáti*, Cz *dát*; SC, Sn *znâk* 'sign', Cz *znak* but SC *znȁti* 'know', Sn, Cz *znáti* (but Bg *znákət*). On the basis of these relations (RP in verb, FP in subst) FP later arose in other subst derived from verbs, as SC *bêg* 'flight' vs. SC *bȅgati* 'run', Sn *bégati*, vs. Li *bė́gas*; SC *mâz* 'ointment' vs. *mȁzati* 'smear'; SC *kvâs* 'leaven' vs. *kvȁsiti* 'soak'; *strâh* 'fear' vs. *strȁšiti* 'frighten' and even *mâr* 'care', hardly a CS word, vs. *mórati* 'take care'. Under these conditions as is common to cases of morphological leveling, vacillations arose and, hence, differences are found among the various Sl languages; e.g. *kraj-* 'edge; land' was involved in this intonational pattern in R (loc sg *krajú*) and SC (*krâj*) but Sn preserves the RP: *kràj* : *krája*; *dym-* 'smoke' was involved in R (loc *dymú*) and Bg (*dimə́t*) while SC *dȉm*, Sn *dìm*, Cz *dým* attest the expected RP (Cf. 4,5).

Examples of subst fem in a consonant with FP on a root vowel that continues a CS monophthong are not numerous: SC, Sn *mâst* 'fat', Cz *mast* 'ointment'; SC *dûž* 'length', Sn *dôlž*[21]. This is a result of morphological levelings, similar to the masc *u*-stems but this time in *i*-stems (Cf. R *grud'* 'breast', gen sg *grúdi*, loc sg *grudí*, etc.). Originally a consonantal stem, *zvěrь* (OCS) 'animal' was transferred to *i*-stems, and this transference accounts for FP on its root vowel which goes back to *ē* (Gr θήρ 'beast'): SC *zvêr*, Sn *zvêr*, gen sg *zverî*, Sk *zver*.

The third group, adj and part, is represented by such instances as SC *žîv*, neut *žîvo*, fem *žîva* 'alive', Sn *žîv*, *žíva* (Cf. Li *gývas*, Le *dzîvs*, OI *jīvás*, La *vīvus*); the discrepancy between SC *sȉv*, *sȉva* 'grey' and Čak *sîv*, *sīvȁ* indicates the analogical character of these relations. Intonational mutations were created

[20] Kuryłowicz may be correct in assuming that this adaptation could be of a quite late date, after the shortening of vowels in the first syllable of trisyllabic words (See 32,5): **sýnu* had then pl (SC) *sȉnove*, **míru* – *mȉrove*, hence *sŷn*, *mîr*.

[21] Cf. also subst masc which belonged to *i*-stems: Sn *tât*: *tatû* 'thief', SC *tât* : *tâta*.

by the type SC *sûh, súha* 'dry', *hûd, húda* 'bad'. FP particularly spread in participles: passive such as SC *pît* 'drunk', *šît* 'sewn', *žêt* 'reaped' (fem *píta, šíta, žéta*) and active in *-l-* such as R *dal* : *dalá* 'gave' (cf. also *pródal* 'sold' where the stress retraction onto the prefix also points to FP on root vowel); *byl* : *bylá* 'was' (cf. *próbyl*); *žil* : *žilá* (cf. *próžil*); *bral* : *bralá* 'took' (but here *zabrál*); *zval* : *zvalá* 'called' (but *prozvál*). In Sn one finds *brâl* : *brála, bîl* : *bíla, dâl* : *dála, zvâl* : *zvála* (along with the newer *dâla, bilà, brâla*, etc.); in SC Čak *dâl* : *dālȁ* (*prȍdāl*), *bîl* : *bīlȁ, brâl* : *brālȁ* (*pȍbrālo*), *zvâl* : *zvālȁ* (In standard SC the fem may point to FP with its *dála, bíla, brála, zvála* but masc has the intonation of the inf: *dȁo, bȉo, brȁo, zvȁo*). The forms of the aorist SC *bî* 'be', *dâ* 'give', *vî* 'howl', *pî* 'drink', *lî* 'pour', *brâ* 'take', etc. basically follow the pitch pattern of the participle. For more detail see 33.8.

The very fact that cases of FP on long monophthongs so neatly fit into certain morphological categories (of *u*-stems, *i*-stems and three-gender words) is a convincing proof that it is not the original distribution of pitch which is reflected in these words. They are the results of morphological levelings, although mostly of CS origin[22].

12. Origin of intonations in CS. Structural (morphological) approach. As shown in sections 9–11 of this chapter, counterarguments were raised protesting many of the objections levelled against Hirt's and Fortunatov's laws as well as other views of the Neogrammarian school, but these were not all equally convincing. The obscurity of many details, the uniqueness of the intonational system assumed for CS, and, in particular, the striking discrepancies between IE and Sl stress could not be glossed over. Thus, instead of clarifying minor details, a revision of the entire theory based on a new methodology seemed necessary. Obsolete methods were to be replaced by new approaches as elaborated by the various trends of structural linguistics.

The most outspoken and radical rejection of the majority of traditional views was suggested by Kuryłowicz who emphasized morphology rather than phonetic changes; however, the first change which triggered the series of developments was still sought in phonology.

This approach assumed that the opposition of RP vs. FP in CS (Kuryłowicz speaks about Balto-Sl) was first created by retraction of stress from middle short syllables with a regular diphthong or a short monophthong onto the

[22] An attempt was made to explain FP on monophthongs phonetically: in most cases where Sl has FP on a monophthong, Le has ˆ, e.g. SC *žîv* 'alive', *nâg* 'naked', *zvîr* 'beast' – Le *dzîvs, nuôgs, zvêrs*. On the other hand, Le ˆ corresponds to Hi spellings with double vowels, in which a laryngeal is reconstructed, e.g. Le *dêt* 'lay eggs' – Hi *da-a-ir* 'they put'. Li is supposed to have RP in these cases, but with mobile stress in the paradigm; It-Ce has brevities. The inference from these correspondences would be that Le ˆ directly continues an IE laryngeal while Sl responds to it by FP (Mel'nyčuk). If accepted, this theory would mean that the loss of laryngeals which in general brought about RP, in these cases yielded exactly the opposite: mutation of RP into FP. This is not very plausible, even if such an action is ascribed to a special type of laryngeals only.

initial syllables: Li *dùkterį* 'daughter', acc sg, from **duktẽri*-; Čak *nȁ glavu* 'on head'). The new stress, insofar as it fell on a long vowel, was rising, i.e. different from. and opposed to, the original, non-retracted stress of falling nature. Thus, the opposition RP vs. FP became phonemic in the initial syllables. The second assumption is that those middle syllables which retained their stress (i.e. which had long vowels) all obtained RP which, in this position, was a concomitant of stressed length and, consequently, non-phonemic[23]. This theory implies that RP was not inherited from IE but arose in CS; it also posits that opposition in intonations (intonability) existed only under stress. Unstressed syllables only knew opposition in quantity: length vs. brevity. Accordingly, it is assumed that all long vowels in the final syllables had FP, again in this position of non-phonemic character. This makes any application of Fortunatov's law to Sl impossible. Kuryłowicz considers it limited to Li alone, where he introduces it in connection with the shortening of final lengths and sees in it the reason for the reverse character of Li intonations in comparison to Sl (rising pitch ˜ continuing the Balto-Sl FP, falling pitch ˊ continuing the Balto-Sl RP).

According to this view, the mobility of stress in Balto-Sl paradigms is also basically a Balto-Sl innovation which first came from consonantal stems. Omitting morphological details as outside of the framework of this book, the mobility is considered to be created by the opposition of disyllabic forms where no stress retraction took place (Li *duktẽ*) and trisyllabic forms where the stress was retracted onto the initial syllable (Li *dùkterį*). Then, due to the interplay of consonantal stem paradigms with mobile and immobile stress, with long and short root vowels, RP spread to all long monophthongs in consonantal stems. This resulted in the well known Sl situation that paradigms with immobile stress have RP and paradigms with mobile stress have FP. Hence this distribution also spread to other, non-consonantal stems. The same principle is applied to conjugation. Thus, this situation which in the Neogrammarian theory was the original point of departure for all subsequent developments, in the new approach is a later achievement due to a complicated interplay of morphological factors.

Stang, another exponent of the structural approach to the problem of the rise of CS opposition in intonation, is more cautious in rejecting the Neogrammarian theory. He is ready to assume that Sl (Balto-Sl in his terminology) intonations are inherited from IE and, consequently, are linked to Gr intonations, – at least in final syllables, – although he agrees that they first became phonemic in Sl in other positions. Nor does he consider stress mobility in the declensional and conjugational paradigms a Sl innovation. On other points,

[23] This could explain the facts of the type of R *zóloto* 'gold' with FP, but in the middle position, *pozolóta* 'gild', *górod* but *ogoród*, etc. (See 4,9), provided *pozolota*, *ogorod* etc. were formed after the stress shift onto the initial syllables and obtained their RP by analogy to other words, which all had RP on their middle syllables. If the words existed at the time of the stress shift the initial stress would be expected.

however, Stang is close to Kuryłowicz: he denies intonability of unstressed syllables and therefore does not accept Fortunatov's law for Sl. Finally, he also considers morphological factors crucially important to the distribution of pitch in CS.

13. Criticism of the morphological approach. Morphological factors can strongly interfere with the distribution of intonations as exemplified in the preceding sections. A few more examples may be appropriate.

In late CS, the supine was opposed in intonation to the (disyllabic) inf. The supine had FP as opposed to the inf with RP. This is reflected in Sn, e.g. the supines *brât* 'take', *pît* 'drink', *prę̂st* 'spin' vs. the inf *bráti, píti, prę́sti*, and in OCz with the supines *brat, pit, přest* as opposed to the inf *bráti, píti, přísti*. Pb infinitives with the advanced stress *t'au̯sót* (tyaussôt) < *kúšati* 'eat', *krojót* (krojôt) < *krájati* 'cut', etc. reveal that in the Pb merger of inf and supine the latter prevailed (See also 33,12). It has been pointed out that the subst neut in *-o* with FP or brevity on the root vowel have root stress if they are suffixless but desinential stress if they were formed in CS by the addition of a suffix: R *dérevo* 'tree', *ózero* 'lake', *próso* 'millet', *óko* 'eye', *nébo* 'sky', *slóvo* 'word', *séno* 'hay', but *oknó* 'window', *seló* 'village', *bedró* 'thigh', *dolotó* 'chisel'[24].

However, in the structural (morphological) explanation of the rise of Sl intonations, as outlined above, the influence of morphological factors is overestimated. The obvious distribution of long monophthongs and long diphthongs bearing RP in contrast to regular diphthongs with FP is clear in CS despite later complications (as analyzed in 4,11). To seek the explanation of this simple fact in the intricate hypothetical interplay of various morphological cross-influences would be taking a circular route.

The morphological theory is forced to take as its point of departure two phonological changes: the retraction of stress from non-long vowels of middle syllables onto the initial syllables with the concomitant rise of RP, and the appearance of RP on stressed vowels in middle syllable while FP remained on final long vowels. We do not know the reasons for the posited stress retraction. But granting the retraction, it is easy to understand why RP arose on the vowel of the initial syllable: it was phonetically motivated because RP linked the initial syllable to the following one and indicated that the latter was originally stressed (Cf. rising stress in SC in all words in which the stress was retracted. *sèstra* 'sister', *rúda* 'ore' – R *sestrá, rudá*). But the rise of RP on the stressed long vowels in middle syllables, i.e. a kind of metatony on these syllables is neither motivated phonetically nor otherwise.

In the morphological theory there is one concession to tradition and by the same token to phonological explanation: the admission that the shortening of long diphthongs (*āu, āi*, etc. > *au, ai*, etc.) in early CS resulted directly in the opposition of RP vs. FP in diphthongs; thus intonation was no longer a con-

[24] Those with RP usually have root stress even in suffix derivations, in accordance with Hirt's law, e.g. R *délo* 'deed', *máslo* 'butter', *sálo* 'lard'.

comitant of length (originally with RP) or brevity (originally with FP), and assumed phonemic status. However, if this is admited the possibility of viewing it as the origin of CS phonemic opposition in pitch without resorting to other, more complicated explanations is posited.

Without delving into morphological problems, one may indicate that the morphological theory could not clarify all the stress shifts in the mobile stress paradigms satisfactorily, while most of the cases are more or less easily explained by Fortunatov's law. To refute the latter the morphological theory leans heavily on Li facts trying to equate them completely with CS. For those who accept stress immobility in the paradigms of late IE, Li stress mobility is the only pattern comparable to Sl stress mobility. This is true also for those who proceed from the assumption that IE paradigms had mobile stress: as remnants of presumed stress mobility in both Gr and OI are very few, the main source of information about the stress is still Li. Under these conditions the Li mobile stress is sometimes taken for granted, while CS stress is treated as something deducible from Li; but, in reality, Li stress needs explanation itself.

The main differences between Sl and Li stress in paradigms are: Sl has paradigms with consistent desinential stress (oxytones) not found in Li; on the other hand, in CS all mobile stress paradigms were bound to roots with FP or brevity, while in Li there are two types of mobile stress paradigms, with RP and with FP. The problem of Sl oxytones shall be discussed in 4,14.

The acceptance or refutation of Fortunatov's law was made dependent on whether the distribution of stress in Sl mobile stress paradigms is closer to Li pattern with RP than to that with FP. If this is really so, the conclusion to be drawn is that stress shifts in Sl paradigms are not connected with the intonation of the root vowel and, thus, must be explained from the original mobility or from an interplay of morphological factors.

This is one of the most often quoted paradigms with mobile stress, one with *ā*-stem nouns:

R:	Nom	*golová*	SC Čak	*glāvȁ*	Li (RP) *galvà*	Li (FP) *rankà*
	Gen	*golový*		*glāvé*	*galvõs*	*rañkos*
	Dat	*golové*		*glāvȉ*	*gálvai*	*rañkai*
	Acc	*gólovu*		*glâvu*	*gálvą*	*rañką*
	Instr	*golovój(u)*		*glāvún*	*gálva*	*rankà*
	Loc	*golové*		*glāvȉ*	*galvojè*	*rañkoje*
	Nom pl	*gólovy*		*glâve*	*gálvos*	*rañkos*
	Gen	*golóv*		*gláv*	*galvų̃*	*rañkų*
	Dat	*gólovám*		*glāván*	*galvóms*	*rañkoms*
	Acc	*gólovy*		*glâve*	*gálvas*	*rankás*
	Instr	*gólovámi*		*glāvȁmi*	*galvomìs*	*rañkomis*
	Loc	*gólováx*		*glāvȁh*	*galvosè*	*rañkose*

At first it seems that Sl stress distribution coincides with Li more frequently in the case of Li RP type (*galvà*). Both Sl and Li have final stress in the gen sg, loc sg and dat pl; in all these cases the Li FP type has root stress. In the acc pl Sl again shares its root stress with Li RP type, while Li FP type shows desinential stress. The Sl gen pl as its NRP shows, also had a stressed ending as in the

Li RP type. The only case in which the Sl mobile stress declension is in complete accord with the Li FP type and differs from the Li RP type is the instr sg.

However, these are deceptive facts. In the gen sg it is debatable whether the Sl ending *-y* is of the same origin as Li *-os*. The acc pl and the nom pl in Sl merged, hence the stress of R *gólovy*, Čak *glâve* should be compared not with Li acc pl *gálvas* as opposed to *rankás* but rather with Li nom pl *rañkos*. In the gen pl Sl generalized final stress for all or most subst. Consequently, its accord with the Li type *galvų̃* is a mere coincidence. In the loc sg the Sl and Li endings are of different origin. Thus, only the dat pl remains. However, in this case, Li stress in the FP type of declension (*rañkoms*) may be due to analogy with the root stressed instr and loc pl where the stress remained on the root because a law analogous to Fortunatov's law (de Saussure's law) operated in Li with respect to final vowels only, i.e. on a narrower scale than in Sl. These three cases have a uniform stress place in all Li nominal declensions.

Thus, in principle there are no discrepancies between the Sl mobile type declension and the Li mobile FP type of declension. In addition, the point of view is broadly accepted in Li studies that the stress mobility in the RP type declension is a secondary phenomenon and that this paradigm goes back to the paradigm with desinential stress. This would definitively rule out the assumption that CS ever had a special mobile stress declension in nouns with RP on the root vowel.

Hence, only the difference in intonation of Sl acc sg **gol̑vǫ* and Li acc sg *gálvą* remains. It is usually accepted that RP in Li is original and FP in Sl is due to the general tendency of Sl to mutate RP into FP in certain inflectional types (*sýn* becoming *sŷn*, etc. See 4,11). The question is not very important because we are not dealing with a type or group of words here but with a single word. A change of intonation could have occurred in this word in Li. Subst of this type in Li are relatively few in number compared to those of other stress patterns; most of them are suffix derivatives and trisyllabic; the disyllabic ones, like *burnà* 'mouth', *naudà* 'need', *ožkà* 'she-goat', *trobà* 'house', *žmonà* 'wife' have no correspondences in Sl[25]. It is quite possible that the isolated *galvà* originally had FP, just as in Sl, but later was involved in the declensional type with desinential stress (having final stress in the nom sg, etc.), underwent metatony and with other oxytones switched to the RP mobile stress paradigm.

Thus, Sl stress mobility is bound to words with FP or brevity and may be derived from Hirt's and Fortunatov's laws. It is not necessary to deny these laws for Sl. The Neogrammarian conception is more impervious to arguments than it may have seemed. However, its weak points were aptly revealed by modern research. To understand how Sl opposition in intonation arose one cannot simply reiterate the statements of the Neogrammarians. Certain corrections and improvements are necessary.

[25] Except *burnà* which corresponds to Bg *bə́rna* 'lip'. The Bg stress probably is an old acc sg stress. But the Bg word does not enable the student to reconstruct the original pitch.

14. The rise of the phonemic pitch and the new free stress in Sl. Summary. With the reservations made in 4,3 about impossibility of a comprehensive theory of Sl intonations to explain every fact of Sl accentuation, a general outline of the earliest history of the Sl accentual system may be presented as follows:

A. The earliest CS possessed two intonations: RP and FP, but each was fixed on certain types of vowels and consequently had no phonemic (distinctive) value. The oldest was FP. It characterized regular diphthongs and short vowels. RP developed partly in IE (in this sense CS inherited its intonations from IE) and partly probably in the earliest CS, on long monophthongs and diphthongs resulting from the loss of laryngeals. Whether lengths of a more ancient period (apophonic lengths, see 6,5) bore RP primarily or joined, in this respect, the lengths brought about by the loss of laryngeals is an open question, but it is irrelevant from the viewpoint of Sl Each vowel, stressed or unstressed, bore an intonation.

B. Long diphthongs (except final nasal diphthongs. See 4,18.) underwent shortening but preserved their RP. This endowed the intonations with distinctive value[26], i.e. with phonemic function. The accentual system of CS contained three distinctive features at this period: stress, quantity, and pitch. Under these conditions stress without much resistance was suppressed as a phonemic category. Phonetically, this meant that stress was fixed as it is today in Mo Cz (initial), M (prepenultimate), or P (penultimate), although these languages do not directly continue the reconstructed CS situation. Consequently CS stress had only a delimitative function. It was the prevalence of musical tone which led to the abolition of dynamic free stress.

This assumption accounts for the lack of continuity between IE and attested Sl stress. In addition to the discrepancies cited in this chapter (Section 9) cf. the complete extinction of IE distinction of deverbatives with active meaning and final stress vs. those with passive meaning and root stress, of the type Gr τομός 'cutter', φορός 'carrier' vs. τόμος 'slice', φόρος 'tax, payment'. If there are instances of identical stress place in Sl and other IE languages (as R *snoxá* 'daughter-in-law' vs. OI *snuṣā́*, Gr νυός) they are merely coincidences with different motivations.

An assumption of a lack of continuity between IE and Sl stress places the latter in the general framework of post-IE developments. It is hardly accidental that most IE language families sooner or later experienced a stage of fixed stress. Early La and Ce had initial stress. Germ arrived later at basically the same situation. Irn (Av), according to a plausible conjecture of Kuryłowicz, had penultimate stress (or possibly penultimate on lengths and prepenultimate if the next to the last syllable had brevity), and so did Arm. Only OI did not abolish or limit its phonemic stress. (It drastically curtailed the number of

[26] Distinctive value of pitch possibly also arose on monophthongs in some endings which had arisen from contractions but preserved FP. See the chart in section 17.

vowels). The loss of phonemic (free) stress was especially justified in those IE languages where phonemic opposition in pitch developed.

If it is assumed that CS had fixed stress at that stage, the question arises what was the place of the stress. More specific studies must be undertaken to answer this question; later facts should be used to reconstruct the earlier relationships. Some preliminary assumptions may be offered. It is impossible to assume the stress fixed on final syllables: later relations cannot be deduced at all from a final fixed stress; nor do we know of any adjacent language with such a stress. Final stress usually stems from a drastic reduction and loss of endings, a situation not existing in CS at the time under discussion. Later Sl conditions are more easily explicable from a penultimate fixed stress perhaps with certain qualifications of intonational or morphological character (possibility of the prepenultimate stress if the root syllable was third from the end). Hirt's law would account for stress retractions, Fortunatov's for stress advancements. The assumption of a fixed penultimate stress places CS in the context of common Sl-Irn (and Arm) developments. If proved it would establish one more Sl-Irn link[27].

C. A new stress which was articulated with stronger expiration began developing on syllables with RP. Phonemically, the new stress was at first only a concomitant of RP. Thus, RP on a preceding syllable overpowered the fixed penultimate stress which had been falling onto a middle syllable. RP on a following syllable overpowered the fixed penultimate stress of the preceding syllable (or syllables). These are reformulations of Hirt's and Fortunatov's laws. The essence of the two laws was correct: RP taking over the stress from syllables with FP or brevity. What must be changed in the traditional formulation of the two laws is that in both cases it is not a shift of an IE stress which is involved, but the rise of a new free stress based on the preceding status of CS as a language with a fixed, non-phonemic accent. As a result of Hirt's and Fortunatov's laws, the new stress arose in CS, no longer bound to a certain syllable, but not completely free because stress and pitch distribution became interdependent.

As for the words which had only RP or only FP (or brevities) on all their syllables, it may be assumed that they retained their penultimate stress unless it was shifted by morphological analogy, cf. R *rýba* 'fish', Sn *ríba*, SC *rȉba*, Bg *ríba* with RP on both syllables; R *úxo* 'ear', Sn *uhộ* (<*ȗho*), SC *ȕho*, Bg *uxó* (< *úxo*), with no RP. The presence of words in which stress lay on a syllable with FP, and the presence of unstressed syllables with RP guaranteed the stress a degree of independence from RP to which it was bound in most cases.

D. A certain stability arose in the new CS accentual system due to the establishment of an interdependence between the re-created limitedly free

[27] Unification of the stress place should not necessarily have been absolute. Certain morphological categories could have retained their accent on another place for certain reasons. Cf. Mo P: it has penultimate stress but words with the suffix *-ik(a)* have a prepenultimate accent (*gramátyka*, etc.).

stress[28] and the pitch contour. The relations that obtained also corresponded to the development of CS toward the so-called "vocalic" type of language (See 13,1). This accentual system existed, with certain partial shifts, until the time of the disintegration of CS when both this system and the "vocalic" character of the language were largely abandoned.

Before that time, the accentual system of CS thus included three elements:

stress: not fixed to a certain word's syllable and mobile, but depending on pitch distribution for its place and shifts;

quantity: opposition of length to brevity in both stressed and unstressed syllables;

pitch: opposition of RP to FP in long vowels.

There is a fact which apparently contradicts the suggested explanation of how phonemic intonations and, subsequently, the limitedly free stress emerged in CS: desinentially stressed paradigms (type of R *žená* 'wife', acc sg *ženú*, U *berú* 'take' : *beremó*, 1 pl, instead of the expected acc sg +*žénu*, 1 pl +*berémo*)

In the paradigms with fixed desinential stress two subtypes are to be distinguished: with FP or brevity of the root vowel, and with RP. If limited again to subst fem in *-a* (for some subst masc with desinential stress see 33,16), in the first group root stress would be expected in at least the acc sg. For the nom-acc pl one may assume that the stress of the acc pl with its original RP on the vowel of the ending prevailed; pl in general has been largely reshaped in the historical Sl languages and consequently must be considered with caution.

These subst, if obviously recent formations and borrowings are not counted, are rare in Mo R. Cf. *korá* 'bark', *stopá* 'foot', *četá* 'couple'. But more subst belonged to this type previously, as proven by the combined testimony of Čak with its *ženȁ* : acc sg *ženȕ* : nom pl *ženȅ*, *sestrȁ* 'sister' : *sestrȕ* : *sestrȅ* and OR nom pl *žený́*, *sestrý́*, *vdový́* 'widow', etc. (Mo R *žëny*, *sëstry*, *vdóvy*, etc.). However, vacillations in this group are frequent, cf. Čak *čȅta* vs R *četá*, Čak acc pl *žȅne*, Čak acc sg *kozȕ* vs R (now archaic) *kózu* 'goat'; SC *kȍra* 'bark', *skȍba* 'cramp', *sȍva* 'owl' vs. R *korá* : acc sg *korú*, *skobá* : *skobú*, *sová* : *sovú* as well as probably Sn *kóra*, *sóva* have generalized the old stress of the acc sg, whereas R forms are based on the old nom sg stress. Even for *žená*, *sestrá* cf. R poss adj *žénin*, *séstrin* (but SC *žènin*, *sèstrin*).

The type is undoubtedly CS but in CS it was rather marginal. It may be assumed to be of a later date than Hirt's and Fortunatov's laws and to be due partly to morphological derivation and partly to the unification of stress in some subst with mobile stress. Even such words as *žená*, *slugá* 'servant' may have been, as to their stress, backformations from the verbs *ženíti*, *služíti*: the verbs had the suffix stress in agreement with the general accentual rules: the substantives supposedly followed Fortunatov's law until, interpreted as deverbatives, the words of the type *žená*, *slugá* switched to a consistent final

[28] The stress is called limitedly free because it was no longer fixed on a certain syllable; but it was not free in the sense that its place was determined by distribution of pitches.

stress on the same syllable as in the verbs. The whole development may be presented in three stages:

1. **gʷená*, acc sg **gʷènа*N (according to Fortunatov's law);
2. the verb derived on the basis of the nom sg and in accordance with Fortunatov's law: **gʷenítēi* (later *ženíti*);
3. **gená*, acc sg **gená*N, as if derived from the verb.

In certain Mo Sl languages and dialects the forms of the acc sg of *žena* (and some other subst of the same type) with root stress are found: Sn *žẹnọ̑* (like *vodọ̑*; nom sg *žéna* like *vóda*), SC dial (Montenegro) *žȅnu* (like *vȍdu*; nom sg with analogical accent: *žȅna*, *vȍda*). It is not impossible that these forms are survivals of the first stage in the development, petrified in marginal areas (These accents are attested from the fourteenth – fifteenth centuries).

For leveling stress on the basis of the nom sg final accent it must be noted that some of the words with final stress have mobile stress in Li, e.g. *slaugà* 'service', acc sg *slaũgą*, *raudà* 'redness', acc sg *raũdą*, *araujà* 'stream', acc sg *sraũją* – vs. R *slugá* : *slugú*, *rudá* : *rudú* 'ore', *strujá* : *strujú* 'jet'.

The secondary character of final stress is more obvious in the second type of desinentially stressed subst, with RP on the root vowel. R *xvalá* 'praise', Sk, Cz *chvála*, Sn, SC *hvála*, Bg *xvalá* and a few similar examples as a rule go back to verbs of the type *xvalíti*. The secondary character and late date of CS fixed final stress is indirectly attested by the fact that some words borrowed from Germ with initial stress also belong to oxytones in Sl, e.g. R, Bg *pilá*, Sn *píla*, SC *píla* (acc sg still *pîlu*) – cf. OHG *fîla*; R *trubá* 'trumpet', P *trąba*, Sk *trúba*, Cz *trouba*, Sn *trọ́ba*, SC *trúba*, Bg *trəbá* – cf. OHG *trumba*; and even before a brevity: R, Bg *vinó* 'wine', Sn, SC *víno* – cf. Go *wein*. The only way late CS could preserve Germ length after the former had lost it in stressed syllables (See 32, 4) was by making it pretonic.

The situation in verbs is more complex. They had the same three types of accentual patterns as subst: fixed stress on root (as a rule with RP), mobile (as a rule with FP or brevity), and fixed final stress (mostly with FP or brevity on the root as well).

The final stress is well attested in verbs, in both *e*- and *i*-classes as well as in the athematic verbs:

U *berú*	Cak *berén*	R *berú*	but SC *bȅrēm*	Sn *bérem*
beréš	*berȇš*	*berëš'*	*bȅrēš*	*béreš*
beré	*berȇ*	*berët*	*bȅrē*	*bére*
beremó	*beremȍ*	*berëm*	*bȅrēmo*	*béremo*
bereté	*beretȇ*	*berëte*[29]	*bȅrēte*	*bérete*
berút'[30]	*berú*	*berút*	*bȅrū*	*berọ́* (and *bérejo*)

SC *dȑžīm*	Čak *držȋn*	Sn *držím*	MR *deržú*	MU *deržú*
dȑžīš	*držȋš*	*držíš*	*deržíš'*	*deržýš*
dȑžī	*držȋ*	*drží*	*deržít*	*deržýt'*
držīmo	*držīmȍ*	*držímo*	*deržím*	*deržymó*

[29] But MR *bereté* (Kormčaja, 1650).
[30] Cf MU *zovemó* 'call', *idemó* 'go', *deržymó*, *damó* 'give' (P. Berynda, 1627).

držite	*držītě*	*držite*	*deržité*	*deržyté*
dȓžē	*držé*	*držé*[31]	*deržát*[32]	*deržát'*.

The accentuation of Sl verbs in present tense, in both CS and individual Sl languages underwent a series of morphologically conditioned levelings which changed to a considerable degree the distribution of the stresses expected on purely phonological grounds. It was shown (4,10) that even the question if, and to what extent, Fortunatov's law may be applied to 1 sg aroused some doubts. As for the paradigms with final stress one may try to place their appearance in early CS in the period of fixed stress and view it as the result of the use of *e*-verbs with various enclitics, particularly enclitic pronouns, certainly a frequently employed syntactic construction. In such constructions, e.g., *berémo je* 'we take it' became *beremó je*. Hence, this final stress could have been generalized and retained.

In late CS. verbs with final stress were probably reinvigorated. The following development may be conjectured: by the time when the *jers* lost their capacity to bear stress (which occurred in late CS on the brink of its disintegration), and in 3 sg and 3 pl *-tь* was dropped, the stress in the paradigm, say, *berǫ́ : berèšь : berè(tь) : berèmo : berète : berǫ́(tь)* which continued the original penultimate stress, shifted only in 1 sg onto the ending, was grasped in sg and 3 pl as final. as in many other cases this columnal final stress was replaced by the marginal final stress. that is became: *berǫ́ : berèšь : berè(tь) : beremò : beretè : berǫ́(tь)*. If this assumption is correct, one would expect the rise of marginal final stress in those verbs which had FP or brevity on their root vowel, not in those with RP (because in the latter the stress is expected to have been retracted onto the root, in accordance with Hirt's law). And, in fact, it is striking that most verbs with final stress have root vowels with FP or brevity. Moreover, among the relatively few verbs with RP on the root vowel and final stress, some reveal a striking contradiction to their forms built on the second (aor-inf) stem: the latter have a synchronically unmotivated root stress, e.g. R *gryzú : gryzët* 'gnaw', *kladú : kladët* 'put', *padú : padët* 'fall' but *grýzla, klála, pála*, and not *+gryzlá, +klalá, +palá*. This testifies to a later date of final stress in the present tense of these verbs.

The accentual pattern of *e*-verbs with final stress was followed by some *i*-verbs, again. typically enough, mainly by those with FP or brevity in their root vowel; athematic verbs joined the pattern, too. The vivid mutual influence of the *e*-and *i*-types of conjugation is well attested in Mo Sl by the fact that *-e-* is lenthened in the *e*-verbs to follow the model of *i*-verbs in SC (*bȅrēš* like *dȓžīš*), in Sk (*berieš* like *držíš*) and sporadically in OCz (See 33,11a).

An additional factor supporting the final stress in the *e*-verbs was the opposition between 3 sg in present tense and the aorist with its root stress, cf. SC aor *plȅte* 'braid' vs. pres *plètē*, aor *dȑžā* : vs. pres *dȑžī*, etc.

The fact that the finally stressed verbs are at least partly an innovation of

[31] And *držijo*.
[32] For stress retraction in later R see 33, 11b.

late CS is corroborated by the scattered appearance of these forms in the attested Sl languages and dialects, by numerous vacillations and, finally, by some relics of the original stress mobility, some of them evidently of hypercorrect character, as OR (RChSl ?) forms of 1 sg with root stress, like *vélju* 'order', *tvórju* 'make', etc., in the Čudov New Testament of 1348 and elsewhere.

This explanation of how the pres tense verbal paradigms with final stress could have arisen is but conjectural and only establishes the main lines of development. The problem requires further study. It must be said, however, that the opacity of some of its details is not caused by the assumption of a period in CS with fixed stress. The material contains many unclear details no matter what the approach.

15. Area. As mentioned in 4, 14 the IE free stress was abandoned in most IE languages: in fact, in all well attested groups of languages, except OI. It is possible that stress fixation on the penultimate syllable was a common innovation in Sl, Irn (Av) and Arm: it is also possible that Balt participated in this innovation. Ill is supposed to have initial stress. Further reformations of the accentual system in Sl determined by Hirt's and Fortunatov's laws (as reformulated in 4,14) were not shared with Irn and Arm. To answer the question whether Balt went through the same development as Sl special investigation is necessary. Preliminarily, it may be posited that in Li and probably Le Hirt's law also operated[33]. But there is no evidence of Fortunatov's law having operated in Le. To Li final stress caused by the operation of that law Le replies with `, its regular correspondence of the original FP, and not with ˆ which marks words with retracted stress: Li *barzdà* 'beard' vs. Le *bãrda*. Li *aušrà* 'dawn' vs. Le *àustra*, Li *žiemà* 'winter' vs. Le *zìema*, etc.

The law discovered by de Saussure and Fortunatov was very important for the Li accentual system. But it is not identical with the law which operated in Sl. In Li, it operated only with respect to two adjacent syllables and solely in disyllabic words. It was connected with the shortening of final long vowels and resulted in the reversal of the phonetic quality of intonations: original FP mutated into a tone with a rising curve, original RP acquired a falling pattern. Brevities. were also repatterned to a rising curve, as Ekblom observed.

Thus, it is logical to assume that this law was not Balto-Sl; moreover, it was not Li-Sl, strictly speaking: in CS and Li it was brought about by the similar previous status of the language, but it operated independently, differing in important details, and, probably, in different epochs. One might speak of two different laws, one in CS, another in Li, both often called de Saussure's law. To avoid misunderstandings, it would be commendable to reserve the name of de Saussure for the law which applies to Li, the more so because de Saussure himself advanced his law for Li alone. As to its "twin-law" in Sl, it would be appropriate to call it by the names of those who first applied it to Sl, viz.

[33] Compare with the examples cited in 4,9: Le *mãte, pil̃ns, il̃gs, kar̃va, dũmi, zir̃nis,* although *bût* and *ûdris* contradict Hirt's law.

Fortunatov and Meillet. For the sake of simplification it has been called in this chapter and throughout this book, Fortunatov's law.

The accentual changes discussed may be summarized and visualized in the following chart:

	Arm	Irn (Av)	Le	Li	CS
Introduction of fixed (probably penultimate) stress	+	+	+ ?	+ ?	+
Hirt's law	—	—	+ ?	+	+
de Saussure's law	—	—	—	+	—
Fortunatov's law	—	—	—	—	+

16. Outlook. The radical changes in the accentuation of CS severing the connection between Sl and IE stress were triggered by the loss of laryngeals. i.e by the same fact which caused the loss of aspirated stops in the consonantal system of CS. The immediate consequence of the rise of the opposition RP vs. FP was the increase in number of vocalic phonemes. Previously CS had the system of long vowels as opposed to the short ones:

i ī *u ū*
e ē *o ō* + *ei ēi ai āi oi ōi*
a ā *eu ēu au āu ou ōu*

now it became

i î í *u û ú*
e ê é *o ô ó* + *êi éi âi ái ôi ói*
a â á *êu éu âu áu ôu óu*[34].

This was a partial compensation for the losses in the number of consonantal phonemes: five consonantal phonemes were lost, but five new vocalic phonemes appeared, monophthongs with a different pitch contour. In diphthongs, the introduction of the opposition RP vs. FP did not increase the number of phonemes because the opposition in intonation simply replaced the opposition in quantity, without changing the number of phonemes.

With the diminished number of consonantal phonemes and the enhanced number of vocalic phonemes, the very type of the language was slightly changed becoming more "vocalic"; this corresponded to the phonetic trend toward a tone language, opening the door for further curtailment of the consonantal system.

17. Appendix: Survey of the intonations in the endings of the CS nominal declension. To make the correspondences and discrepancies in the intonations of the Sl, Li and Gr declensional endings more evident, and also for references, a sample table

[34] Usually in phonemic descriptions of languages prosodic features (length and pitch) are not included in the phonemic inventories. For history of CS however, under assumption that every long vowel was characterized by a specific pitch contour, it is more economical to include the prosodic features in the inventory of the phonemes, as is consistently done in this book.

of the principal declensional endings particularly those which are or might be of the same origin is presented below. This chart refers to the situation before the operation of Fortunatov's law. The declension was chosen and not the conjugation because it better preserves ties with its IE foundations and provides a more comprehensive set of endings. In the first column Sl endings are cited: the first form is late CS, mostly attested in the earliest records of the Sl languages (without the indication of the intonations of course); the second form in each instance is reconstructed for early CS. In parentheses its supposed make-up in IE is given when it contributes to a better understanding of the intonation of the ending. The second column gives the corresponding Li endings, the third Gr. In the last column the intonations in the three languages are visualized as such, without endings: the first letter refers to Sl, the second to Li, the third to Gr. It goes without saying that many cases are controversial, but it was impossible to include in the chart the various divergent reconstructions and their interpretations.

o-**stems**

Gen sg	*-â* < *-ôd/t* (< *-o* + *et*)	*-o* (unstressed)	–	F F –
Dat sg	*-û* < *-ôi* ? (< *-o* + *ei*)	*-ui* (unstressed)	-ῷ	F F F
Loc sg	*-ě̂* < *-ôi*	*-iẽ*, *-aĩ* (in adv[35])	-οῖ (in adv[36])	F F F
Instr sg	*-á* < *o*H[37]	*-ù* (in adj *-úo-ju*)	–	R R –
Nom pl	*-î* < *-ôi*	*-aĩ*, *-iẽ*	-οί	F F R
Acc pl	*-ŷ* < *-ôns*	*-ùs* (< *-ōns* ?)	-ούς (< *-ṓns*)	F R R
Gen pl	*-ъ* < *-om* < *-ōm* (< *-o* + *o*N)	*-ų̃*	-ῶν -	R?F F R F F
Instr pl	*-ŷ* < *-ôis* (< *-o* + *ĩs* or *-ō* + *ĩs*)	*-aĩs*	-οῖς	F F F
Nom du	*-á* < *-ṓ(u)*	*-ù* (in adj *-úo-ju*)	-ώ	R R R
Nom pl neut	*-á* < *-a*H	–	-ᾰ (< -H)	R –(R)

ā-**stems**

Nom sg	*-á* < *a*H	*-à* (< *-á*)	-ᾱ́ or -ή	R R R
Acc sg	*-ǫ* < *-ām* or *-am*	*-ą* (unstressed)	-ᾱ́ν or -αν	F F R
Gen sg	*-ý* < *-ā*N*s* (< *-a*H + N*s*)	*-õs* (< *-ãs* < *-a* + *es*)	-ᾶς or -ῆς	R F F
Dat sg	*-ě̂* < *-ai* (< *-a* + *ei*)	*-ai* (unstressed[38])	-ᾷ or -ῇ	F F F
Loc sg	*-ě́* < *-āi* (< *-a*H + *i*)	–	–	R – –
Nom pl	*-ŷ* (from acc pl)	*-os* (unstressed)	-αί	F F R
Acc pl	*-ŷ* (with the pitch of the nom pl)	*-às* (< *ā*N*s* or *-ās*)	-ᾱ́ς or -ανς	F R R
Nom du	*-ě́* (?)	*-ì*	-ᾱ́	(R)R R

u-**stems**

Gen sg	*-û* (< *-ous*)	*-aũs*	–	F F –
Loc sg	*-ú* < *-ōu*	(*-ūjè*)	–	R – –
Acc pl	*-ŷ* < *-u*N*s*	*-ùs* (< *-u*N*s*[39])	(-υνς)	F(R)–

[35] Like *namiẽ* 'at home'.
[36] Like Ισθμοῖ 'on the Isthmus', οἶκοι 'at home'.
[37] In adverbs like OCS *vъčera* 'yesterday'.
[38] In the pronominal declension *taĩ*.
[39] Comes from *o*-stems.

i-stems						
Gen sg	-*î* < -*eis*	-*iẽs*	–	F	F	–
Dat sg	-*î* < -*ei*	(dial -*ei*, unstressed)	–	F	F	–
Loc sg	-*í* < -*éi* (< – -*e*H + *i*)	–	–	R	–	–
Acc pl	-*î* < -*î*N*s*	-*ìs* [40]	–	F(R)		–
Nom du	-*í* < -*i*H	-*ì*	–	R	R	–

18. Direct traces of the long diphthongs in Sl. Long diphthongs existed in Sl only transitorily but left an indelible trace in stimulating the reformation of the Sl accentual system. They also left their trace in Sl vowel alternations.

In prevocalic position in early CS their components were redistributed between the syllables: e.g. in **trōu̯ā* (OCS *trava* 'grass'), the syllable boundary presumably followed *u̯*; later, but still before the general loss of long diphthongs, the syllable boundary was shifted to follow *ō*, so that *u̯* assumed the functions of a consonant. In this way *ō* escaped shortening which affected all long diphthongs (later, when *ō* > *ā*, it also became *ā*). If in the verb with the same root ChSl *truti* 'consume', there is no direct evidence whether *ou* which yielded *u* had been long or short the form of 1 sg pres *trovu* (RChSl) unambiguously points to the original short diphthong in contradistinction to the subst *trava*, which clearly stems from a form with a long diphthong. Cf. also OCS *sluti* 'to be known as' : *slovǫ* (1 sg) : *slava* 'glory'. These are the remains left by long diphthongs in the system of Sl vowel alternations and the only case in which they are immediately (i.e. not through the reflexes of CS pitch) identifiable from the Mo Sl languages.

In the endings, there is a chance that long diphthongs with the second component a nasal did not lose their length or restored it later (See 18, 3). But since this is uncertain further discussion is based on the assumption that all long diphthongs shortened.

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5. LOSS OF SYLLABIC SONANTS

1. General statement. 2. Area. 3. Identification. 4. Examples. 5. Distribution of *i*S and *u*S. 6. Problem of N̥ > ъ, ь. 7. Length in syllabic sonants. 8. Conditions and effects of the loss of syllabic sonants. 9. Immediate repercussions of the loss of syllabic sonants in the system of vowel alternations. 10. Rise and extension of the lengthened zero grade. 11. Blended series in vowel alternations. Anomalous alternations. 12. Chronology and historical background.

1. From IE, CS inherited sonants functioning as vowels: *m̥*, *n̥*, *r̥*, *l̥*. In further text S will denote any sonant, S̥ any syllabic sonant, and S̭ any positively non-syllabic sonant.

The presence of syllabic sonants is established by the following evidence:

1) In vowel alternations they regularly occur where zero grade is expected: where *e* alternates with #, *ei* with #*i*, *eu* with #*u*, there *e*S̭ alternates with #S̥, thus indicating that functionally the sonants are vowels, like *i* and *u* under the same conditions.

2) The variety of their reflexes in the attested IE languages (see 5,3) may be deduced only from inserted vowels, not from a single vowel to be posited for IE.

3) At least for *r̥*, *l̥*, their syllabic function is directly attested by OI, e.g. in *kr̥̍tā* 'cleft' (CS **kr̥tā*, R *čertá* 'line').

In CS a short vowel (long if followed by a laryngeal. See section 7) developed before S̥. As a result, the syllabic character of S̥ was transferred onto that vowel which in most cases was *i*, sometimes *u* (See section 5). Thus, *m̥* > *im*, *n̥* > *in*, *r̥* > *ir*, *l̥* > *il* (or *um*, *un*, *ur*, *ul*). It is possible that such a glide existed for long time as a kind of onset in the articulation of S̥. This is frequently the case in languages which have syllabic sonants. If this is true for CS, the development was not so much phonetic as functional. With little or no significant change in articulation, the syllabic function was shifted: S̥ became a regular consonant. The number of vowels in the CS sound inventory was reduced: *m̥*, *n̥*, *r̥*, *l̥* were eliminated.

2. Area. All the IE languages tended to eliminate the syllabic sonants. Even in OI they were only partially preserved (*r̥*, rarely *l̥*, and only if short). Also the process by which the syllabic sonants lost their syllabic function was basically the same: insertion of a vowel before or after S̥. In the case of a nasal sonant *m̥* or *n̥* the vowel in many languages remained eventually as its only representative. The nasality was obviously transferred onto the vowel which was later denasalized. Thus, if in Av **n̥* > *a*, the following stages may be assumed:

n̥ > *an* > *ą* > *a*

However, although vowel insertion was a common procedure in the IE languages, it was implemented independently in the various dialects.

Major differences existed in the choice and position of the inserted vowel: before or after S̥. Sl has certain affinity with OI, Germ, and possibly To. Like Sl, OI had *i* or *u* before its long *r̥̄* (and *l̥̄*).But in OI *m̥* and *n̥* took *a*, and short *r̥* was maintained. In Germ *u* is found consistently before S̥. This is again only a partial similarity: *i* is predominant in Sl. There is no doubt that the Sl development of syllabic sonants occurred independently from both OI and Germ. To possibly had *u* + S reflexes after velars, *ä* + S in other positions. Ce, and in most cases Alb, had *i* like Sl, but after S̥.

The relationship between Sl and Balt is quite different. Both had the same reflexes of syllabic sonants: *i*S̭ in most cases, *u*S̭ in the remaining instances; and even the distribution of *i* and *u* is virtually identical. Only in very few roots a discrepancy is found:

CS **sirb-* (R *serbát'* 'sip', Sn *sŕbati*) – Li *sur̃bti* 'suck', Le *surbt* 'sip';
CS **birl-*(R *berlóga* 'den', SC *bŕlog* 'pig's lair') – Li *bur̃las* 'mud'.

If one considers that both the *i* and *u*-forms could occur in the same root, as in CS **skirb-* (R *ščerbína* 'cut, chipped place') and **skurb-* (R *skorb'* 'grief') or Le *mùrgi* 'visions' and Li *mirgě́ti* 'flicker', and that some words could have fallen into disuse, the complete identity of the distribution of *i* and *u* in Sl and Balt will become obvious. The loss of syllabicity by sonants was a common Sl-Balt development.

3. Identification. In identifying the syllabic sonants of late IE and early CS one may be interested in merely establishing the presence of S̥ in a given root or in finding out what vowel originally developed in that root: *i* or *u*. In either case the methods applied differ depending on the sonant under consideration.

In identifying *r̥*, a comparison of SC and R is usually sufficient. If SC has *r̥* and R has *e* (or *o* preceded by a palatalized consonant or *ž*, *š*) before *r*, this indicates CS *r̥* > *ir*, e.g. SC *vȑh* 'top', R *verx*; SC *žȑnalo* 'quern', R *žórnov* 'millstone'. The full set of correspondences within Sl is: *r̥* in Sn, SC, M, Sk, Cz (*er* in Cz and partly in Sk after hushing consonants: *vrch*, but Sk *čierny* 'black', Cz *černý*); *er* in R, Br, U; *er* basically in P (OP *ir*) and So, but before hard dentals *ar* in P and LS (P *martwy* 'dead', *ziarno* 'grain'; LS *humarly* 'dead') and *or* in US (*zorno* 'grain'). Bg has *ə* beside *r*, preceding or following *r* (*vrəx* : *vərxúška*).

The minimum data necessary to identify *r̥* which became *ur* is again provided by comparison of SC and R: SC has *r̥* while R has *or* preceded by a non-palatalized consonant, other than *ž*, *š*: SC *gȑba* 'hump', R *gorb*. The complete set of correspondences is: *r̥* in Sk, Cz, Sn, SC, M; *or* in R, Br, U, US; *ar* in P and LS; mobile *ə* in Bg (*grəb* 'back' : *gərbát* 'hump-backed').

In the case of *l̥* > *il*, *ul*, only Sk has *l̥* as such (*vlk* 'wolf', *dlh* 'debt') but does not distinguish *il* from *ul*. The two types are not differentiated in R, Sn and M (in both cases *ol*: *volk*, *dolg*; in Sn = [ow]), Br and U (*vowk* – *vovk*, *dowh* – *dovh*), in Cz (*l̥* after labials, *lu* in other positions: *vlk* but *žlutý* 'yellow', *dluh*), SC

(in both cases *u*: *vûk, dûg*), and Bg with its mobile ə (*vəlk, dəlg*). P distinguishes *il* and *ul* after labials (*ul* > *ol*, *il* > *el* before hard dentals, *il* in other positions: *pulk* <**polk* 'regiment', *pelny* 'full', *wilk*) but merges the two groups after dentals (*dlug* with CS *ul*, *tlusty* 'fat' with CS *il*). In P a preceding velar indicates CS *ul*, a preceding hushing consonant CS *il*. Thus, a comparison of Sk and P is crucial for the identification of CS *l̥* and its subsequent representation in CS by *il* or *ul*, in all positions except after dentals. In the latter case, no modern Sl language differentiates between the reflexes of *il* and *ul*. Only by turning to Balt may some degree of certainty be achieved.

Syllabic nasals are virtually unidentifiable within the framework of Sl. *i*N (N stands for both *m* and *n*) coalesced with *e*N in the late CS *ę*, and similarly *u*N merged with *o*N. For instance, with respect to P *ciąć* 'cut' if non-Sl languages are not consulted, one can only state that the P nasal vowel goes back to one of two forms, either *e*N or *i*N. Intonation supplies no clues because the long diphthongs developed from N̥ (whether *ī*N or *ū*N) would have RP like those nasal vowels which continue *ē*N, *ō*N, *ā*N; on the other hand, FP would characterize both *i*N, *u*N < N̥ and *e*N, *o*N, *a*N. If there are no correspondences in non-Sl languages, the problem is insoluble.

The Balt languages as a rule retain distinction of vowels before N, thus N̥ is represented in Li by *i*N, *u*N, while *e*N, *o*N occur as *e* and resp. *a* + N; in certain cases N is lost but the quality of the vowel remains unchanged. However, the Balt data do not provide positive identification of CS relations for two reasons. First, least important, is that dialectally (ELi and Le) *an, am* changed into *un, um*, thus merging with the old *un, um*, and dialectal forms of this type could occasionally have penetrated into other dialects or the standard languages. The second fact is of greater importance. In IE as well as in early CS, N̥ was a zero grade form of *e*N : *o*N forms and their alternation was fairly regular, appearing in roots, themes and suffixes. Later, numerous levelings took place, and one of the alternating forms was often suppressed. Such generalizations could have taken opposite directions in Sl and Balt, or could have been realized in only one of the two languages. A clear example is Sl **pontis* 'road' whose Balt counterpart is OPr *pintis*. The Sl word goes back to **pont-*, the OPr to **pn̥t-*. Originally this was an alternation in declension, still attested in OI with its acc sg *pánthām* (< **pont-*) vs. gen sg *patháh* (< **pn̥t-*). Sl generalized **pont-* in the whole paradigm, OPr maintained the zero grade form. Hence, if OR *tьnu* 'cut', 1 sg, corresponds exactly to Li *tinù* 'sharpen' and Li has the infinitive *tìnti* (< **tn̥-*), it still does not prove that the inf in Sl **tęti* (OR *tjati*) also has its *ę* from *n̥*. The verb could have had an alternation of zero grade in pres and *e* grade in the inf, preserved in Sl but simplified in Li by generalizing -*i*N- from N̥.

Cases of this type are not rare in forms with *r̥, l̥*, where both Sl and Balt show unequivocally the original grade of alternation and discrepancies between Sl and Balt are apparent. E.g., zero grade in Sl **gilt-* (R *žëltyj* 'yellow') has as its Balt counterpart *e*-grade only: Li *gel̃tas* 'yellow', Le *dzelts*, OPr **geltaynan* (recorded as *gelatynen*); the root of OR *vermie* (< **virm-*; zero grade) 'worms' is represented in Balt by Li *var̃mas* 'insect', OPr *wormyan* ~ *warmun* 'red'

which is *o*-grade. On the other hand, *e*-grade in Sl **vers-* (R *véresk* 'heather', P *wrzos*, Sn, SC *vrȇs*) finds its correspondence only in Balt zero grade forms: Li *viȓkščiai* 'stems of potato, beans, etc.', Le *vìrsis* 'heath' and so does Sl **vert-* (R *veretá* 'sack, sack-cloth', Sk *vrecko*) as compared to Li *virtinė* 'bunch'.

It is only natural to expect the same types of discrepancies between Sl and Balt in the instances of alternating N̥ : *e*N : *o*N. Usually original N̥ is assumed for Sl on the basis of the unanimous testimony of several IE languages; therefore the number of examples available is severely limited. But even this unanimity does not absolutely prove that Sl had the form with N̥. The survival of one form of a morpheme subject to vowel alternations or another is haphazard, and it is not impossible that by chance an N̥ form (i.e. zero grade) dominated in all the IE languages but Sl.

In IE non-Sl languages twofold reflexes of syllabic sonants are found, depending on whether the S̥ was short or long. This is the set of the most important correspondences:

IE	Li	OI	Av	Arm	Gr	La	Ir	Go	To
r̥	*iȓ/uȓ*	r̥	*ərə*	*ar*	ρα/αρ	*or*	*ri*	*aur* (< *ur*)	*är/ur*
r̥̄	*ìr/ùr*	*īr/ūr*	*arə*	(*ar*)	αρα/ρᾱ/ρω	*ari/rā*	*ara rā*	*ur*	
l̥	*iȋ/uȋ*	r̥ (l̥)	*ərə*	*al*	λα/αλ	*ul*	*li*	*ul*	*äl/ul*
l̥̄	*ìl/ùl*	*īr/ūr*	*arə*	(*al*)	αλα/λᾱ/λω	*ali/lā*	*ala lā*	*ul*	
N̥	*i*Ñ/*u*Ñ	*a*	*a*	*a*N	α	*e*N	*a*N *i*N	*u*N	*ä*N/*u*N
N̥̄	*ì*N/*ù*N	*ā*	*ā*	(*a*N)	αΝα/Νᾱ	*a*N*i*/N*ā*	N*ā*	*u*N	

4. Examples[1]. A. Short syllabic *r* (r̥̆): OCS *vrьbie* 'willows' – Li *viȓbas* 'withe, switch', Le *vir̂bs* 'stick', Gr (ϝ)ῥάβδος 'rod'. In Mo Sl: R *vérba* 'willow', Br *vjarbá*, U *verbá*, P *wierzba*, LS, US *wjerba*, Sk *vŕba*, Cz, M *vrba*, Sn, SC *vȑba*, Bg *vərbá*;

R *ščerbá* 'cut, chipped spot' – Li *skiȓbti* 'to sour', Le *šķir̂ba* 'rift', Gr σκαρφᾶσθαι 'scatter'. In Mo Sl: Br *ščarbína*, U *ščerbýna*, P *szczerba* 'notch', LS, US *ščerba*, Sk *štrbina* 'rift', Cz *štěrba* 'notch', Sn *ščȓba*, SC *Štȓbina*, name of a mountain, M *štrb* 'snaggletoothed', Bg *štərb* 'notch';

OCS *vrьtěti* 'twirl' – Li *viȓsti* 'become', OPr *wīrst*, Gr (ϝ)ρατάνη 'ladle'. In Mo Sl: R *vertét'* 'twirl', Br *vërtki* 'voluble', U *vertkýj*, P *wartki* 'rapid', LS *wjerśeś* 'twirl', US *wjerćić*, Sk *vrtet'*, OCz *vrtěti*, Sn *vrtéti*, SC *vŕteti*, M *vrti* 'turn', Bg *vərtjá*;

R *korno(úxij)* 'crop-eared' – Li *kuȓsti* 'grow deaf', Le *kur̂ns* 'deaf'; Indo-Irn has lengthening: OI *kīrṇáṣ* 'crippled', Av *karəna-* 'deaf'. In Mo Sl: Br *karna(vúxi)* 'crop-eared', U *karnovúxyj*, Sk *krniet'* 'grow small', Cz *krněti* 'become stunted', Sn *kȓn* 'mutilated', SC *kȓn*, M *krni* 'break'.

For more examples see section 5.

[1] Assignment of a root to those with short or long S̥ is in many instances uncertain. Out of 69 roots counted 7 are not represented in any IE language distinguishing between the reflexes of long and short syllabic sonants. On the basis of Li evidence one expects long S̥ in 29 and short S̥ in 29 roots(4 roots being not represented in Balt). Of 29 roots expected to have long S̥, 11 are also represented in OI but only 7 of them have length. Of 29 roots where one expects short S̥, 14 are also represented in OI, but 2 have length in OI. There are further discrepancies between Balt on the one hand and Gr and/or La on the other, and between OI and Gr and/or La. In further examples, the Balt facts are conditionally taken as crucial in relating a root to the group with long or short S̥.

B. Long syllabic *r* (*r̥̄*): OCS *žrьtva* 'sacrifice' – Li *gìrti* 'praise', OPr *girtwei*, OI *gīr-*, La *grātus* 'welcome'. In Mo Sl: R, U *žértva*, Br *žërtva*, Sn *žŕtev*, SC *žȑtva*, M *žrtva*, Bg *žértva* (borrowed from R. In other Sl languages probably borrowed from OCS);

R *dërn* 'turf' – Li *dìrti* 'cut turf', OI *dīrṇás* 'shaken'. In Mo Sl: Br *dzëran*, U *déren*, P *darń*, LS *dern*, US *dorn*, Cz *drn*, Sn *dȓn*, Bg *drən*;

R *korpét'* 'sweat (over)' – Li *kùrpė* 'shoe', Le *kur̃pe*, Gr κρηπίς, but La *carpisculum* 'kind of shoes'. In Mo Sl: P dial *karpać* 'repair (shoes)', Cz *krpě* 'shoes', Sn *kŕplja* 'snowshoe', SC *kȑplje*, M *krpi* 'repair'.

More examples in section 5.

C. Short syllabic *l* (*l̥̆*): OCS *mlъčati* 'be silent' – Li *smil̃kti* 'die off', La *mulceō* 'stroke', but Gr μαλακός 'soft'. In Mo Sl: R *molčát'*, Br *mawčác'*, U *movčáty*, P *milczeć*, LS *mjelcaś*, US *mjelčeć*, Sk *mlčat'*, Cz *mlčeti*, Sn *mólčati*, SC *múčati*, M *molči*, Bg *məlčá*;

OCS *vlъna* 'wave' – Li *vìlnį* 'wave' (acc sg), Le *vilna*, but length in IIrn: OI *ūrmíṣ*, Av *varəmi-*. In Mo Sl: P *wełna*, Sk, Cz *vlna*, Bg *vəlná*;

OCS *stlъpъ* 'post' – Li *stul̃pas*, Le *stùlps*. In Mo Sl: U *stovp*, P, LS *słup*, US *stołp*, Sk *stĺp*, Cz *sloup*, Sn *stólp*, SC *stûp*, Bg *stəlp*. Cf. R, M *stolb*;

R *čëln* 'boat' – Gr σκαλμός 'oar pin'. Balt has another grade of alternation: Li *kélmas* 'tree trunk'. In other Sl languages: Br, U *čóven*, P *czólno*, LS *coln*, US *čołm*, Sk *čln*, Cz *člun*, Sn *čôln*, SC *čûn*.

More examples in section 5.

D. Long syllabic *l* (*l̥̄*): R *Vólga*, river-name – Li *vìlgyti* 'moisten', *vìlkšnas* 'damp'. In other Sl languages: U *vohkýj* 'damp' (< **vovhkýj*), P *wilgi*, Sk, Cz *vlhký*, Sn *vólgek*;

Sk, Cz *vlna* 'wool' – Li *vìlna* 'wool', Le *vil̃na*, OI *ū́rṇā*, Av *varənā*, Gr (Dor) λᾶνος, La *lāna*, Go *wulla*. In other Sl languages: Br *vówna*, U *vóvna*, P *wełna*, LS *wałma*, US *wołma*, Sn *vólna*, SC *vȕna*, M *volna*, Bg *vǝ́lna*;

OCS *dlъgъ* 'long' – Li *ìlgas* (< **dìlgas*), Le *il̃gs*, OI *dīrghás*, Av *darəγa-*, cf. La *indulgeō* 'indulge'. In Mo Sl: R *dólgij* 'long', Br *dówhi*, U *dóvhyj*, P *długi*, US *dołhi*, Sk *dlhý*, Cz *dlouhý*, Sn *dôlg*, SC *dȕg*, M *dolg*, Bg *dǝ́ləg*;

Cz *hluk* 'noise' – Li *gùlkščoja* 'rumor goes', Le *gulkstêt* 'shout'. In other Sl languages: P *giełk* 'noise', US *hołk*, Sn *gôlk* 'thunder', Bg *glək* 'noise'.

More examples in section 5.

Examples for syllabic *m* and *n* are all uncertain and may be given only tentatively, for reasons explained in 5, 3.

n̥ > *in*: OCS *pa-mętь* 'memory' – Li *at-mintìs*, OI *matíṣ* 'thought', Av *maiti-*, La *mentis* 'mind' (gen sg), Go *ga-munds* 'memory';

OCS *mękъkъ* 'soft' – Li *mìnkyti* 'knead', Le *mîksts* 'soft', OI *mácati* 'grind', Gr μάσσω 'knead';

OCS *językъ* 'language, people' – OPr *insuwis* 'tongue', OLa *dingua* (La *lingua*), Go *tuggô*, To A *käntu* (< **tänku*) (IE **dn̥ǵ'ū-* with initial consonant lost in Sl and Balt).

There are no certain examples for *n̥* > *un*, nor for *n̥̄*.

m̥ > *im* ~ *um* is posited in the IE suffix **-mb'(os)* as represented in CS **astr-mb-* and *gol-mb-* (R *jástreb* 'hawk', *gólub'* 'pigeon'), cf. Gr ἔλ-αφ-ος 'deer', La *palumbēs* ~ *columba* 'pigeon'.

m̥ > *im* in OCS *desętь* 'tenth' – cf. Li *dẽšimt* 'ten', OPr *dessimpts* (but also *dessempts*), OI *daśatíṣ*, Av *dasa*, Arm *tasu*, Gr δεκάς, La *decem*, Go *taihun*;

CS *dętl-* (R *djátel* 'woodpecker', P *dzięcioł*, SC *dȇtao*) had a secondary *im*. The word was derived from **dĭlb-* 'peck' (cf. Li *nu-dìlbti* 'lower eyes'); **dĭlbtĭl-*, after the loss of *b* (See 13, 3), by dissimilation became *dętĭl-*.

No reliable examples for *m̥̄* may be cited. See also 22, 3e.

5. Distribution of *i*S and *u*S. At first glance the distribution of *i* and *u* that usurped the syllabicity of the original S̥ seems arbitrary. Although *i*-forms prevail the margin is rather slight.

Two views were advanced to explain the apparently unsystematic character of the facts. One theory attempts to explain the emergence of *i* or *u*-forms by referring to the root form in the full grade of alternation: if represented as an *o*-form, its zero grade counterpart is expected to be *u*, if an *e*-form, *i* is expected in zero grade (Baudouin de Courtenay, Mikkola, Endzelin *et al.*). The other theory expounded by Fortunatov, Vaillant and Kuryłowicz seeks the explanation in the preceding consonant. The two approaches may be labeled, respectively alternation theory and phonetic-environment theory.

Examples which oppose the alternation theory may be cited, showing that the full grade vowel does not always correspond to the vowel in zero grade, i.e. *o*S : *i*S or *e*S : *u*S may be found instead of the expected *o*S : *u*S and *e*S : *i*S, e.g., R *korótkij* 'short' vs. *čertá* '(short) line' (< **kirt-*); *val* 'wave' (< **vōl-*) vs. *volná* 'wave' (< **viln-*); *vórox* 'pile' (< **vorx-*) vs. RChSl *vьrxu* (1 sg); R *górod* 'town' (< **gord-*) vs. *žerd'* 'perch' (< **gird-*); R *(o)toropét'* 'be struck dumb' (< **torp-*) vs. *terpét'* 'suffer' (< **tirp-*); *gólod* 'hunger' (< **gold-*) vs. SChSl *žlьděti* 'hunger, long' (< **gild-*); U *džereló* 'source' (< **gerd-*) vs. R *górlo* 'throat' (< **gurd-*) and numerous other examples. There also are examples of both *i*S and *u*S used in the same root, as R *terzát* 'rend' (< **tirg-*) vs. P *targać* 'tear' (< **turg-*); R dial *sterk* 'crane' (< **stirk-*) vs. *torčát'* 'protrude' (< **turk-*); R *pérxot'* 'dandruff' (< **pirx-*) vs. R *porxát'* 'flit' (< **purx-*), etc. To counter these instances, a reference to non-extant forms which could have been used in early CS and were later lost may always be made. But since the presence of these forms cannot be either proved or disproved the theory as well as the argument against it are inconclusive.

The alternation theory often refers to the assumption that *e* and *o* never were reduced to nothing before a S, but were kept as extremely brief or reduced $_{e}$, $_{o}$. Then the development would have been as follows:

in respect to *o* + S, the zero grade $_{o}$S > *ŭ*S
in respect to *e* + S, the zero grade $_{e}$S > *ĭ*S.

In this form the theory is more plausible phonetically. But it must be refuted on chronological grounds. The stage $_{e}$, $_{o}$ characterized early IE; appearance of *ŭ*, *ĭ* before sonants falls into the period when Sl developed as an independent language. Between the two stages there was a time lapse for which nothing but syllabic sonants may be posited. It is true that a possibility exists to link the $_{e}$, $_{o}$ period with the *ĭ*S, *ŭ*S period if one assumes that $_{o}$S resulted in S̥ (non-palatalized syllabic sonant), whereas $_{e}$S resulted in S̥' (palatalized syllabic sonant) with the subsequent development S̥ > *u*S, S̥' > *i*S. This is possible since the category of palatalization existed at that time in CS (in palatovelars, possibly also in *s*).

Thus, the theory of *i*S, *u*S going back to pre-Sl IE relations cannot be discarded entirely. It has a certain degree of probability. However, it is based on assumptions and possibilities only.

The other view which deduces the distribution of *i*S and *u*S from the phonetic environment, operates with more tangible phenomena. Generally, it assumes that after velars (Fortunatov, Kuryłowicz) or after labiovelars (Vaillant) S̥ > *u*S while in other positions S̥ yielded *i*S. Articulatorily, it is most plausible to consider the beginning of the entire development of *u*S forms in the influence exerted by labiovelars: at the time of their delabialization their labial component could have influenced the extraphonemic glide which preceded S̥. Thus, when the glide developed into *i* in other phonetic environments, in this case it became *u*. From the position following labiovelars, *u* could have spread to the position after regular velars.

The evidence of the historically attested Sl languages is intricate and contradictory. But one fact is striking: *u*S(C) never appears after palatovelars. Palatalization obviously precluded the rise of *u* before S̥. Taken statistically, the data of the Sl languages are ambiguous, but the number of *u*S cases vs. *i*S cases is much greater after velars than in any other position. Out of 86 roots examined, not necessarily exhausting the material but constituting its bulk and giving adequate evidence, the number of *u*S forms is as follows:

After labials of	34 roots	10 have *u*S	(29%)
dental stops	13	3	(23%)
s	2	0	(—)
palatovelars	3	0	(—)
velars	33	19	(58%)
In the initial position	1	1	(100%).

It is only after velars that *u*S forms constitute more than a half of the cases (the initial position may be disregarded as one instance does not allow for any generalizations). Considering *u*S a normal reflex after velars and *i*S in other positions a listing of the roots with normal reflexes of S̥ occuring in Sl (in addition to those cited in section 4), and a listing of the deviations is provided below. The roots are presented briefly, i.e. by one Sl form and, when existing, one Balt counterpart; for details one may refer to etymological dictionaries.

I. After labials, *i*S. A. Short syllabic *r* (r̥̆): R *perst* 'finger' – Li *piȓštas*; R *četvërtyj* 'fourth' – Li *ketviȓtas*; R *perst'* 'dust' – Li *piȓkšnys*; Sn *vr̂v* 'rope' – Li *viȓvę* (acc sg); R *verx* 'top' – Li *viȓšų* (acc sg); R *smert'* 'death' – Li *miȓtį* (acc sg); R *pérxot'* 'dandruff' – OI *pr̥ṣant-* 'speckled'; OR *vermie* 'worms' – Li *vaȓmas* 'insect'; R *berlóga* 'den' (but Li *buȓlas* 'mud');

B. Long syllabic *r* (r̥̄): R *mérknut'* 'grow dark' – Li *mìrkčioti* 'twinkle'; R *smerdét'* 'stink' – Li *smìrdi* (3 sg, pl); R *pérvyj* 'first' – Li *pìrmasis*; SC *bȑdo* 'weaver's reed' – Le *birde*; R *mérzkij* 'vile';

C. Short syllabic *l* (l̥̆): P *wilk* 'wolf' – Li *vil̃kas*; P *pilść* 'felt' – Gr πῖλος (< **pilsos*);

D. Long syllabic *l* (l̥̄): Sn *pólh* 'dormouse'; P *pelny* 'full' – Li *pìlnas*.

II. After labials, *u*S. A. Short syllabic *r* (r̥̆): R *morgát'* 'blink' – Le *mùrgi* 'fancies' (but Li *mirgéti* 'flicker'); *porxát'* 'flit' – possibly Li *spùrzdu* (if so, going back to r̥̄); R *boršč* 'hogweed' – Le *burkšis* 'goutweed';

B. Long syllabic *r* (r̥̄): R *bort'* 'hive' – Li *bùrtas* 'lot'; R *bórzyj* 'swift' – Li *bùrzdu*

'rouse' (1 sg); U (*pry*)*bórkaty* 'tame' – Li *bùrkšt*! 'rattling sound'; R *smorkát'* 'blow (nose)' – Li *smùrgas* 'mucus'; Bg *bərná* 'lip' – Li *bùrną* 'mouth' (acc sg); R *morkóv'* 'carrots';

There are no examples of *u* + *l* after labials.

III. After dental stops, *i*S. A. Short syllabic *r* (r̥̆): R *terpét'* 'suffer' – Li *tir̃pti* 'melt'; R *tërn* 'sloe' – OI *tr̥ṇam* 'grass';

B. Long syllabic *r* (r̥̄): R *dert'* 'clearing' – Li *dìrti* 'flay'; R *dërgat'* 'pull' – Li *dìrginti* 'cock';

C. Short syllabic *l* (l̥̆): R *tolpá* 'crowd' – Li *til̃pti* 'find room';

D. Long syllabic *l* (l̥̄). No safe examples except R *dólgij* cited in section 4. Possibly also R *tolk* 'sense' (Li *tùlkas* 'interpreter' borrowed from R); R *tolkú* 'pound' – Li *tìlkstu* 'am tame'.

IV. After dental stops, *u*S. A. Short syllabic *r* (r̥̆): R *torg* 'market' – Li *tur̃gus*;

B. No examples of long syllabic *r* (r̥̄).

C. Short syllabic *l* (l̥̆): Cz *tlustý* 'fat' – Li *tul̃žti* 'swell';

D. Long syllabic *l* (l̥̄): no safe examples.

V. After *s*: r̥̆ is represented by *i*S in R *serp* 'sickle', SC *sȑp* – Le *sirpis*, and R dial *serbát'* 'sip' which, however, has *u*S in Balt: Li *sur̃bti* 'suck', Le *surbt* 'sip'.

VI. After palatovelars, *i*S only. There are no examples for short syllabic *r* and syllabic *l* except R *sérna* 'deer' – Le *s(t)ir̃na*. Long syllabic *r* (r̥̄) is represented in U *zérno* 'grain' – Li *žìrnis* 'peas'; R *sérdce* 'heart' – Li *šìrdį* (acc sg); R *šéršen'* 'hornet' (< OR *sъršenь*) – Li *širšė̃*.

VII. After velars, *u*S. A. Short syllabic *r* (r̥̆): U *korč* 'bush' – Le *kur̂kt* 'become hollow'; R *gorst'* 'handful' – Le *gùrste* 'bundle of flax'; R dial *oskórd* 'hatchet' – OPr *scurdis* 'hoe'; R *gorn* 'furnace' – OI *ghr̥ṇás* 'heat'; R *gorb* 'hump'; R *górdyj* 'proud'; R *kormá* 'stern'; R dial *korgá* 'knee-timber';

B. Long syllabic *r* (r̥̄): R *górlo* 'throat' – Li *gùrklį* 'crop' (acc sg); RChSl *kъrčii* 'smith' – Li *kùrti* 'build'; R *korm* 'food'; R *xort* 'greyhound'; R *skorb'* 'sorrow' – Li dial *skur̃bti* 'be needy'; R *korzína* 'basket' – Le *kur̃za*;

C. Short syllabic *l* (l̥̆): R dial *kolpíca* 'she-swan' – Li *gul̃bis* 'swan';

D. Long syllabic *l* (l̥̄): Bg *kəlka* 'thigh' – Li *kùlšis*.

VIII. After velars, *i*S. A. Short syllabic *r* (r̥̆): R *čertá* 'line' – Li *kir̃sti* 'hit, cut'; R arch *čérmnyj* 'red' – Li *kir̃minas* 'worm'; R *čërnyj* 'black' – Li *Kir̃sną*, river-name (acc sg); R *ščerbína* 'cut' – Li *skir̃bti* 'to sour' (the same root as in R *skorb'* listed under VII); R *čérpat'* 'scoop' – Li *kir̃pti* 'cut'; R *žerd'* 'perch'; R *čërstvyj* 'stale' – Gr κρατύς 'strong';

B. Long syllabic *r* (r̥̄): R *žërnov* 'millstone' – Li *gìrna*;

C. Short syllabic *l* (l̥̆): R dial *želná* 'woodpecker' – Le *dzil̂na*; R *žëltyj* 'yellow' – Li *gel̃tas*; R *čëln* 'boat'.

D. No reliable examples of long syllabic *l* (l̥̄).

IX. Initial position is represented by R *vorčát'* 'grumble' (with later CS prothetic *v*-) – Li *ur̃kti* 'grunt'.

Germ loan words are not included in this list. They regularly have *u*S, independently of the preceding consonant; this is natural for Germ has *u*S in all positions, e. g. R *polk* 'regiment' < Germ **fulkaz* (OHG *folk* 'army'); *dolg* 'debt' < Go *dulgs*; R *xolm* 'hill' < Germ **hulma-*. The only exception, R *vertograd* 'garden' < Go *aúrtigards* has *i*S because of a folketymology which was based on Sl **virt-* (as in R *vertét'* 'turn'). These words must also be dismissed because they belonged to another epoch in CS.

Returning to the roots listed above: if it is assumed statistically that *i*S is a normal reflex after palatovelars, labials, dental stops and *s* whereas *u*S after velars, one must explain the rather numerous deviations for labials (29%), dentals (23%) and velars (42%). It would be useful to compare these cases with

developments in certain Sl languages which, at the dawn of their historical era, repeated the CS process of converting syllabic sonants into non-syllabic resonants by inserting a vowel next the sonant, to take over its syllabic function. In these languages the choice of the new vowel depended on the phonetic environment. This was true of Sk to some extent, but more consistently of Cz. The Lechitic development indicates that not only the following but also the preceding consonant affected the choice of vowel (See 30,5). If one analyzes the facts of early CS keeping this in mind, one more regularity emerges, though again not completely without exceptions: a velar following the sonant clearly tipped the balance toward *u*S. After labials there are only three roots with *i*S before a velar: R *mérknut'* 'grow dark' (vs. *morgát'* 'blink', *-bórkat'*, *smorkát'* 'blow nose'), *molčát'* 'keep silent' and *volk* 'wolf'[2]. After dentals the facts are not so clear: *torg* 'market' is expected, but *dërgat'* 'pull', *terzát'* 'rack', *zérkalo* 'mirror' and probably *tolk* 'sense' and *tolkú* 'pound' would be exceptions, so that one has to assume that after dentals the velars did not affect the character of the vowels. But there is not a single example of *i*S reflexes if in a position between two velars: all G*i*S-type roots have a labial or a dental after their S.

One more observation can be made concerning G*i*S-forms. Those roots in which the initial velar alternates with a palatovelar as a rule have *i*S, not *u*S: *želná*, *žëltyj*, *žerd'*, the possible exception being R *korm* (cf. R *zelënyj* 'green', R dial *zoród* 'rick'. See 9,6).

If these additional factors are taken into account the number of exceptions dwindles after labials to 20% and after velars to 33%. Some of the deviating words may have been loan words. Such suspicions were expressed (though not proved) concerning R *morkóv'*, *stolp* as being at least influenced in their phonetic make-up by Germ, *žértva*, *čertá*, *čérmnyj* by Irn (Av *kərəmi-*, but Pers *kirm*). More borrowings, now undiscoverable may be supposed to have been made during the long prehistorical development of CS. But supposed borrowings could not possibly explain all the deviations from the phonetically expected distribution of *i*S and *u*S reflexes.

At this point it is expedient to return to the possible influence of alternations. The alternations theory is incapable of clarifying all the phenomena in the distribution of *i*S and *u*S reflexes, but it might be useful in explaining deviations from that distribution which is expected on the basis of the phonetic theory. If a root had an alternation of *e*-grade and # grade after a velar, phonetically before a S it should bring about the alternation

$$eS : \text{S̥} > eS : uS,$$

as in, **ger-dl-* (U *džereló* 'source') : **gur-dl-* (R *górlo* 'throat'). But since *e* + S in other positions, i.e. not after velars, alternated with *i*S and this alternation was broadly generalized (See section 8), a new form with *i*S could easily have arisen along with the *u*S form. In the above example, the new form was **gir-dl-*

[2] *x* is not counted among velars because it developed later. During the time under discussion an *s*-type spirant was used in place of future *x*.

(R *žerló* 'muzzle'). In other cases the relationship is not so clear: the *u*S form could have been superseded by the *i*S form or the full grade form was lost; thus, the original relationships may be reconstructed only by comparison with non-Sl IE languages, as in R *čëln* 'boat' with *e*-grade absent in Sl but represented by Li *kélmas* 'tree trunk', Le *cel̂ms*, AS *helma* 'rudder handle'. In still other instances the missing link may be lost completely. Nevertheless, reconstruction of such a link is the only way to understand the interplay of *i*S and *u*S forms in Sl where they are not deducible from phonetic factors.

To sum up the findings of this section, the reflexes of the early CS S̥ were as follows:

a. After palatovelars S̥ > *i*S.

b. Between two velars (labiovelars included) S̥ > *u*S.

c. After velars before non-velars the phonetic reflex of S̥ was *u*S.

d. After labials before velars the phonetic reflex of S̥ was *u*S.

e. After labials before non-velars and after dentals, *s* included, independently of what followed, phonetically S̥ > *i*S.

f. Although relations created by changes (c), (d), and (e) prevail statistically, in many instances they are marred by loan words and by the influence of full grade forms of the same root.

6. Problem of N̥ > ъ, ь. An irregular reflex of *m̥*, ъ (< *ŭ*) instead of *ę* (< *im*) is found in the Sl word which denotes 'hundred': OCS *sъto*, whose IE correspondences are Li *šim̃tas*, Le *sìmts*, OI *śatám*, Av *satəm*, Gr (ἑ)κατόν, La *centum*, Ir *cét*, Go *hund*, To *känt*. At the same time in *desętь* 'ten' which has the same *-*k'm̥t*- in its root (cf. Li *dēšimt*, OPr *dessempts* ~ *dessimpts*, OI *dáśa*, Av *dasa*, Gr. δέκα, La *decem*, Go *taíhun*) the refelex is normal: *ę*.

Two attempts were made to explain the irregularity of Sl (OCS) *sъto*. One considered this form as an Irn borrowing. However, CS *ŭ* cannot be derived from Irn *a* in *satəm*, and it was necessary to have recourse to a hypothetical Irn form ⁺*sutəm*, nowhere attested. The second approach considered the development *m̥* > *ŭ* as regular. To support this view other words were cited with supposedly the same development. The most important of these words are:

Sn *dúti* 'blow' as compared with OCS *dъmo* (1 sg) (**dm̥t*-);

OCS *vъtorъ* 'second' as compared with Li *añt(a)ras* 'other', OPr *antars*, OI *ántaras*, Osset *ändär*, Go *anþar* (**n̥tor*-);

OCS *xъtěti* (along with *xotěti*) 'wish' as compared with Arm *χand* 'desire', *χind* 'joy', Cym *chwant* 'desire', Gr χατίς 'need', La *sentiō* 'feel' (**ks(v)n̥t*-);

OCS *kъmotra* 'godmother' < VLa *commater*;

OR personal name *Sděslavъ* (i. e. **Sъdě*-) as compared to OI *sam-dhā́* 'promise'; also P personal name *Zbysław* (< **Sъby*-) as compared to OI *sam-bhū́-* 'healing';

Cz *nezbedný* 'mischevious' (< *-*sъ-bъd*- < *-*sŭ-bn̥d*-) as in Germ *binden* 'tie'.

All these examples admit other and more convincing explanations.

The form *duti* in its relation to *dъmǫ* (in OCS only *dǫti* attested) results from blending of two different words: OCS *dǫti* : *dъmǫ* related to Li *dùmti* 'blow' and OCS *dunǫti* : *dunǫ*, Bg *dúja* akin to Li *dùja* 'dust', Gr θύω 'rush on (of wind, river, etc.)'. Besides *vъtorъ* OCS had *vьtorъ*; the latter is probably the genuine form, while the former presumably was due to the confusion of ъ and ь typical of most OCS manuscripts. The form *vьtorъ* corresponds to OI *vitarám* 'further', Av *vītara*- (comp of OI *vī* 'away'). The form *xъtěti* has no reliable etymology but rather belongs to the family represented by OCS *xvatati* 'seize', (*po*)*xytiti* 'rob' (see also 22, 4). OCS

kъmotra is a loan word of a later period; since Sl of the time did not tolerate long consonants, in La *commāter* long *m* was simplified into *m* and the word never had any *m̥* in Sl. *sъ-* in personal names is rather related to OI *su-* 'good', Av *hu-*; but even if it continues *sm̥*, the latter was also used as a separate word and as such was affected by the subsequent tendency to drop final consonants (See 15, 2). Finally, Cz *nezbedný* is derived rather from the root *bŭd-* as in *bъděti* : *buditi* 'awake' and had no N̥ either.

Thus, the etymologies on which the contention that N̥ > ъ was built are dubious. In addition, there is a large number of cases in which N̥ normally yielded (through **i*N and **u*N) *ę* and *ǫ*, *dǫti* included. Hence, there are no reasons to admit that generally N̥ > ъ unless it is in word-final position (See 22, 12). The simplest explanation for Sl *sъto* is to assume that *m* in the group *im* from *m̥* of the root was dropped as a result of dissimilation with final *m*, a procedure natural in a numeral often pronounced in allegro tempo: **k'm̥tom* > *k'imtom* > **k'itom* > **šito*[3]. The real difficulty is that after palatovelars S̥ never yielded *u*S, as shown in section 5.

This could have been influenced by the alternation *im* : *um* in Sl *tū(s)-simt-* : **tū(s)-sumt-* as attested in the numeral 'thousand', cf. OCS *tysęšti* and *tysǫšti*. This was a compound consisting of *tū(s)* 'strong' plus the familiar root *k'm̥t-*, literally 'strong(er) hundred'. Its alternation *ę* : *ǫ* (from *i*N and *u*N respectively) is due to the perception of *tys-* as a root and *-ęt-* as a suffix subject to alternating *e* : *o* in declension. The same duality is attested in Balt where OPr *tūsimtons* (acc pl) corresponds to the Sl *-ęt-*forms, whereas Li *túkstantis* parallels the Sl *-ǫt-*forms as well as Le *tũkstuotis*. Hence, the development in Sl would have been:

1) **k'm̥tom* > **simtom* (regular change *k'* > *s*, *m̥* > *im* after palatovelars);
2) **simtom* obtains a parallel form **sumtom* under the influence of alternating *-imt-* : *-umt-* (later *-ęt-* : *-ǫt-*) in **tū(s)simt-*;
3) *-m-* is lost in dissimilation with the final nasal consonant: **sumtom* > **sutom*.

The probability of this dissimilation in the word for 'hundred' is confirmed by the fact that both 'ten' and 'thousand' belonged to other types of stems than 'hundred' and had no second *-m* in their endings (**dek'm̥*, **tū(s)k'm̥t-i̯ā*). Therefore, no dissimilation took place in them and the nasality in the stem was preserved through the whole CS period.

7. Length in syllabic sonants. Syllabic sonants being zero grade of IE diphthong were treated in CS like diphthongs with respect to quantity. Thus, reflexes of short syllabic sonants obtained FP, long syllabic sonants resulted from the loss of a following laryngeal unless the length was conditioned morphologically. Immediate traces of this laryngeal are visible in Gr α after an IE long S̥ (αρα, αλα, αΝα) and possibly in Ir *a* (*ara*/*rā*, *ala*/*lā*, N*ā*, see the chart in section 3). Li reveals the original long diphthongs by its brevity (*ì*S, *ù*S type) which under these specific conditions continues the Li falling pitch (´), the regular correspondence of Sl RP.

In Sl, SSl has regular reflexes of RP on its sonants to the extent that it reveals any CS RP. Cz has no lengths on syllabic sonants if they still preserve their syllabic quality; it distinguishes length and brevity in those cases in which it has developed a vowel after S: *dlouhý* 'long', *tlouci* 'pound', *sloup* 'pillar', *chloupek* 'little hair' vs. *dluh* 'debt', *tlustý* 'fat' (Cz *ou* < *ū*). The opposition of short and long *r* and *l* is quite usual in Sk. But the lengths and brevities are so reshuffled that their distribution provides no direct clues to the early CS situation: Sk *vŕba* 'willow', *hŕba* 'hunch', *mŕtva* 'dead' (fem), *vŕtat'* 'drill', *tŕň* 'thorn', *kŕč* 'cramp', *vĺča* 'wolf cub', *žĺtok* 'egg yolk', *stĺp* 'post', all with long sonants, go back to forms with original brevity; *srdce* 'heart', *zrno* 'grain', *krm* 'forage', *plný* 'full', *dlhý* 'long', on the other hand,

[3] This probably occurred when "nasal doublets" arose in CS and there were certain fluctuations between the forms with and without N. See 22, 4 and 5.

despite the brevity of sonants in Sk, had length in CS. In most cases Sk length on syllabic sonants reflects a much later situation. Details belong to history of Sk (See also 30, 9).

8. Conditions and effects of the loss of syllabic sonants. The first push toward the loss of syllabic sonants could have been given by the loss of laryngeals which resulted in lengthening the preceding syllabic sonant. If it is assumed that phonetically every S̥ had a vocalic on-glide, which is typical of the pronunciation of syllabic sonants, the lengthening could have affected it. It was transformed into a full-fledged vowel and took over, together with S̥, the intonation (RP) which always had been the immediate consequence of the loss of a laryngeal. When (C)$_{i/u}$S̥HC became (C)*í*/*ú*SC, the structure of the group spread to syllabic sonants which had had no laryngeals after them: (C)$_{i/u}$S̥C > (C)*î*/*û*SC (with FP).

The groups *i*SC, *u*SC were not characteristic of IE in its pre-divisional period. The Sl innovation, from the point of view of the language system, was that after the rise of these groups *i* and *u* were allowed not only as vowels between consonants and as second components of descending diphthongs[4] but also as first components of descending diphthongs: a vowel – a sonant were treated as diphthongs both with regard to intonation and alternations. This was an important step toward the complete transformation of *i* and *u* into full-fledged vowels like *e*, *o* and *a*. It marked the beginning of the long development to follow whose most important stages were the loss of *i* and *u*-diphthongs (See 19,1 and 20,1) and the change of non-syllabic *i̯* and *u̯* into consonants *j* and *v* (See 19,10 and 20,9). However at that time *i* and *u* still preserved their contextually conditioned functioning. Their characteristics were determined by their positions, which were of the following types:

C*i*C, C*u*C
V*i̯*V, V*u̯*V
C*i̯*V C*u̯*V
V*i̯*C, V*u̯*C
(C)*i*S, (C)*u*S.

In the phonemic system of CS the loss of *r̥, l̥. m̥, n̥* did not introduce any changes because the vocalic function of the sonants had been as a rule (for exceptions see section 9) contextual, that is extraphonemic.

Thus, direct and immediate phonetic and especially phonemic consequences of the loss of syllabic sonants were insignificant. On the contrary, morphophonemic and morphological consequences of this change were paramount. The loss of syllabic sonants delivered a serious blow to the system of vocalic alternations which CS inherited from IE (See 2.2). Until that time it was a lucid system based on three grades: full grade, long grade, zero grade. The loss of syllabic sonants was detrimental to the system in two respects:

[4] Descending diphthongs are those with non-syllabic second component; they must not be confused with diphthongs with FP. Descending diphthongs could have both FP and RP.

1) There was no longer any real zero grade in sonants combination. In such relations as *er* : *ēr* : *r̥*, zero grade had been a reality. But after *r̥* became *ir* or *ur*, the very principle of alternations in the *r*, *l* and N-series was lost. The transformation of *i* and *u* into regular vowels also contributed to an obscuration of relations in the *i* and *u* alternation series.

2) The split of syllabic sonants into *i*S and *u*S types further endangered the integrity of the CS alternation system. As shown in section 5, the original distribution of *i*S and *u*S groups was conditioned phonetically, whereas the system of vocalic alternations functioned primarily as a morphological phenomenon. A blatant discrepancy arose between the distribution of the *i*S and *u*S groups and the principles of vowel alternations. The frequent leveling in the *i*S and *u*S groups discussed in section 5 was aimed at bringing their distribution into harmony with the system of vowel alternations. Under the new conditions, this would be the system of

*o*S : *ō*S : *u*S

versus

*e*S : *ē*S : *i*S.

However, these attempts never succeeded in eliminating the original phonetically conditioned distribution which even today looms through the entangled data of the historically attested Sl languages and may be revealed by simple count of forms with *i*S and *u*S.

9. Immediate repercussions of the loss of syllabic sonants in the system of vowel alternations. Albeit the loss of syllabic sonants created a threat to the functioning of the early CS vowel-alternation system this system was not abandoned immediately. When *i*S and *u*S arose as a new form of zero grade in vowel alternations the transference of this ≠ grade began in prevocalic position, although, phonetically, it developed before a consonant only. The first stimulus toward the use of syllabic sonants (and subsequently their reflexes) in prevocalic positions came from the loss of laryngeals. They divided the syllabic sonant from the following vowel; after their loss, contiguity was established between the sonant and vowel. In a root of the type CS̥HV, the loss of H placed S̥ immediately before V. But the major factor in the spread of such forms in CS was the tendency to maintain regularity in vowel alternations.

The old system of alternations with ≠ grade of the root vowel and a sonant followed by another vowel may be recalled in the following examples: R *gorét'* 'burn' : *u-gár* 'coal gas' : *gret'* 'warm' : U *hr-an'* 'embers' (**gor-* : *gōr-* : *gr-*); *peró* 'feather' : Cz *pra-por* 'banner' : R *parít'* 'soar' : OCS *vys-pr-ь* 'up' (*per-* : *por-* : *pōr-* : *pr-*); R *zem-ljá* 'earth' : *zm-ejá* 'snake' (as 'crawling on earth') (*g'em-* : *g'm-*); R *kol-ót'* 'prick' : *kl-in* 'wedge' (*kol-* : *kl-*); R *ter-ét'* 'rub' : ChSl *tr-ǫdъ* 'tinder' (**ter-* : *tr-*).

In these examples ≠ grade before a vowel is represented by a sonant only. The situation is different in the series of the type **u̯ōl-* : *u̯l-*. One expects *u̯ōl-* to be reflected as *val-* (R *val* 'wave'), *u̯l-* as *vĭl-* before a consonant (R *volná*

'wave'), but before a vowel instead of the expected *vl-* one finds *vĭl-* ~ *vŭl-* as in OCS *vъlati* 'float, drift'. This form of the root was shaped by the influence of the type **vĭl-na*.

In verbs, transference of *i*S and *u*S forms into prevocalic positions was facilitated by those cases in which a suffix beginning with a vowel was introduced into an originally suffixless form. A comparison of Li *miñti* 'name' with Sl **min-* in OCS *mьněti* 'mean' shows that Sl might also have had the root **min-* before a consonant. When the suffix *-ē-* was added, the form **min-* was retained. Cases of this type set the precedent for *i*S-type groups in prevocalic positions. The same applies to Balt. Li has *minė́ti* 'recall' along with *miñti*.

The tendency to generalize *i*S, *u*S forms as zero-grade forms not only before consonants but also before vowels was typical of early CS as well as Balt. Some further examples:

u̯er- : *u̯ōr-* : *u̯r-* : Li *vér-du* 'bubble' (1 sg) : R *var-ít'* 'cook' : Li *vìr-ti* 'bubble', and in OCS the same form before a vowel : *vьr-ěti* 'boil';

der- : *dor-* : *dōr-* : *dr-* : R *der-ú* 'tear' (1 sg) : *(raz)dór* 'discord' : *u-dár* 'blow' : *dërn* 'turf' (< **dirn-* < **dr̥n-*, before a consonant) and also OCS *dьrati* (< **dir-*, before a vowel);

g'r- before a consonant gave R *zernó* 'grain' (< **zirn-* < **g'r̥n-*) corresponding to Li *žìrnis* 'peas', OI *jīrṇás* 'rotten', La *grānum* 'corn', OIr *grán* 'seed', Go *kaúrn* 'corn'; *-ir-* was transferred in the position before a vowel in OCS *zьr-ěti* 'ripen' (the full grade being represented by OI *járati* 'grows old', Av *zarta-* 'decrepit', Arm *cer* 'old', Gr γέρων 'old man', ON *karl* 'man, old man').

The spread of groups *i*S, *u*S as the representatives of ≠ grade in vowel alternations into prevocalic position was a morphological tendency, not a phonetic law. Therefore, it was not and could not have been consistent. This is particularly evident in the cases of divergent forms found in Sl and Balt. To OCS *znati* 'know' where ≠ grade is represented by *zn-* (< **g'n-*) without any vowel in the root, corresponding exactly to OI *jñāyátē* 'knew' (3 sg), Gr γι-γνώσκω 'recognize', La *(g)nōscō*, To *kn-ān*, Balt responds with reflexes of **g'in-* : Li *žinóti* 'know', Le *zinât*, OPr *er-sinn-at* 'recognize'.

Sl continues full grade **gʷel-* in R *žëlud'* 'acorn', etc., while Li has the *i*S form of ≠ grade, but before a vowel: Li *gìlė*, Le *dzìle*, OPr *gile*. Cf. ≠ grade forms in Arm *kalin*, Gr βάλανος, La *glans*.

A few other examples of *i*S, *u*S transferred from preconsonantal into prevocalic position are: P *kierz* 'bush' (< **kuri-*) vs. U *korč*; Sl **minti* but also **minōN* (OCS *męti* : *mьnǫ* 'rumple, knead' corresponding to Li *mìnti*, *minù* 'trample'); OCS *mьrǫ* 'die' vs. Li *mir̃ti*, *mìrštu* (OCS inf *mrěti* from a full grade form). In many verbs having N̥ in their roots it is unclear whether they had zero or full grade in their inf stems (Cf. section 4): OCS *-čęti* : *-čьnǫ* 'begin', *jęti* : *jьmǫ* 'take', etc.

Frequently the opposition of *e* and *o*-grades to *i*(S) grade is found before a vowel, as in OCS *berǫ* : *-borъ* : *bьrati* 'take'; *sъporъ* 'argument' : *-pьrěti* 'argue'; *opora* 'support' : *(o)prěti* 'lean' : *(o)pьrǫ*; *stolъ* 'table' : *steljǫ* 'spread' : *stьlati*. And with the loss of *e*-forms, the opposition of *o*(S) and *i*(S) grades remains: R

vor 'thief' : *vrat'* 'tell lies' (< **virāt-*); *zvonъ* 'ringing' : OR *zvьněti* 'ring'; R *(u)tolit'* 'quench' : OCS *tьlěti* 'rot'; R *kom-ár* 'gnat' : U *čm-il'* 'bumble-bee' (< **kim-*) – cf. Li *kam-ãnė* 'bumble-bee' : *kim-inti* 'muffle the voice'; Cz *homole* 'lump' : SChSl *žьmǫ* 'press' and Cz *hmota* 'mass' (< **gum-*).

Instances of *u*S before vowels are rarer: OCS *gъnati* 'drive' : *ženǫ* (1 sg) vs. Li *giñti* : *genù* 'drive' (with *i*S and a consonant after it!); R *kóren'* 'root' : U *krak* (< **kur-*) 'bush'; R *kom* 'lump' : Cz *kmen* 'stem' (< **kum-*).

Theoretically, one should expect more examples with *o*S : *u*S than *o*S : *i*S. A simple consideration solves the apparent contradiction: originally the *i*S type characterized mainly verbs, where it alternated with full grade *e*S while *o*S was typical of nouns. Later, when the opposition between *e* in verbs and *o* in nouns became obscured, the particularly striking opposition *o*S : *i*S was preserved. Nominal roots where *o*S : *u*S alternations should be expected used the alternations less frequently or lost their alternations more consistently. This explains why *u*S grade is represented here in a relatively limited number of examples[5].

The alternation *e*(S) : *o*(S): *i*(S) became so productive that it also encompassed some of the morphemes which hardly had had S̥. It was first transferred onto roots in which *e* or *o* followed a sonant:

R *grom* 'thunder' : OCS *grьměti* 'thunder';
R *brod* 'ford' : P *brnąć* 'flounder' (< **bridn-*);
SC *žèrāv* 'crane' : *ždrâl* ~ *ždrao* (< **žir-*, with secondary *d*);
R *nož* 'knife' : OCS *(vъ)nьznǫti* 'pierce',

and then it spread to some roots with no sonants *r*, *l*, N at all, e.g.

R *véčer* 'evening' : *včerá* 'yesterday' (< **vičer-*)
R *god* 'year' : OCS *žьdati* 'wait', etc.[6]

These were the stages in the expansion of *i* (and *u*) zero grade to roots with full grade vowels represented by *e* or *o*. Employed more widely, the new zero

[5] This fact is significant for the relative chronology of the transference of *i*S into prevocalic position. It was a phenomenon which belonged to the period when the opposition of *o*-grade in nouns vs. *e*-grade in verbs still functioned but when alternations in nominal roots were losing their productivity. More on chronology in section 12.

[6] One must distinguish between these words and cases in which *ĭ* and *ŭ* replaced other vowels: in forms of address, titles, and in affective words. These replacements belong to a later period when *ĭ* > ь and *ŭ* > ъ; they indicate reduction of the vowel, not its alternation. The following examples may be cited:

R *car'* 'tzar', Br, U, Bg *car*, SC *cȁr* from *cьsarь* attested in OR while OCS still had *cěsarь* accurately rendering Go *káisar*;

R *bzdet'* 'pedere', U *bzdíty*, P *bździeć*, Cz *bzdít*, Sn *pezdím*, SC *bàzdeti*, Bg *pъzdjá*, all from **pьzd-* while other IE languages point to *e* in the root: Li *bezdė́ti*, Le *bezdêt*, Gr βδέω (< **bzdeįō*), La *pēdō* (< **pezdō*), MoHG *fisten*;

OCS *člověkъ* 'man', P *człowiek*, Pb *clåvək* (*slawak*), LS, US *clowjek*, Sk *človek*, Cz *člověk*, Sn *clóvek*, with further simplification in SC *čòvek*, M *čovek*, Bg *čovék*, but with an unabridged form in R *čelovék*, Br *čalavék*, U *čolovík*. No ь is found in the extant OCS texts, but in the preface to the Gospel ascribed to St. Constantine, the verse demands at least in some instances, that *člověk-* be read as three syllables, i.e. *čьlověk-*.

grade was losing in regularity. The first stage had no exceptions: each Ş before a consonant became *i*S (or *u*S). The second stage (*i*S or *u*S before a vowel) is inconsistent. The fourth stage in the extension of *i* and *u* as representatives of zero grade, in the morphemes having no sonant, is limited to a relatively small number of cases.

The sequential character of the four stages posited is confirmed also by geographical observations. Sl generally shared the first stage with Balt, the exceptions being rather extraordinary. The second stage is also basically shared with Balt but a somewhat higher number of discrepancies shows that the Sl and Balt ties were lessening at that time. In the third stage the differences increased. For OCS *grъměti* 'thunder' Li has *gruměti*, *grumù*, not +*grim-*; OCS and OR *mъnogъ* 'many', on the contrary, finds its Li correspondence in an *i*-form: *minià* 'plenty'. As a rule, forms which belong to the fourth stage have no Balt correspondences. For example, R *žeč'* : *žgu* 'burn' vs. Li *dègti* : *degù* 'burn'.

A further remark is appropriate here concerning the correspondences of Sl and Balt *i*S and *u*S forms before a vowel in other IE languages. Theoretically, a simple sonant would be expected, but actually, in great many cases the IE languages outside of Sl and Balt have some vowels, like Sl. In most cases Germ has *u*, Irn, Gr, La, and Ce *a*, OI *i* (or *u*; in certain positions also *a*). Thus, OCS *mьněti*, Li *minẽti* cited above correspond to Gr μανῆναι 'remind', Go *munan* 'remember'; OCS *po-žьrǫ* 'devour', Le *dzira* 'beverage' to OI *giráti* 'devour'. The "inserted" vowels developed in the other IE languages for reasons similar to those in Sl, but they arose independently of Sl.

10. Rise and extension of the lengthened zero grade. The transformation of *i* and *u* into regular full-fledged vowels, alongside *e*, *o*, *a*, initiated by the change of syllabic sonants into *i*S, *u*S (See section 8), had a further consequence in the system of CS vocalic alternations. The quantitative alternations *e* : *ē*, *o* : *ō*, possibly *a* : *ā* constituted an essential part of the system. When the status of *i* and *u* was changing toward the status of *e*, *o*, and *a*, the logical requirement of the system was the introduction of the alternations *i* : *ī*, *u* : *ū*.

Phonetically, the rise of *ī*, *ū* was secured by the loss of laryngeals. As *ei* + H > *ēi*, likewise *i* + H yielded *ī*; and *u* + H > *ū* in the same manner as *eu* + H > *ēu*. Resulting from the loss of laryngeals, Sl *ī* and *ū* shared RP with the other long monophtongs. This lengthened ≠ grade, *ī* and *ū*, probably first arose in pre-divisional IE or at the time of its disintegration. An example of a pre-Sl *ū* in Sl is OCS *byti* 'be', whose IE stem in full grade was **b'eu̯*-H (cf. OCS *bljusti* 'guard') and ≠ grade *b'u*-H, as represented in OCS 2 – 3 sg aor *bě* (< **b'u̯* + *e*H. For loss of *u̯* see 13,5). This was probably the procedure which produced Sl verbs of the type *myti* 'wash', *ryti* 'dig', *kryti* 'cover', *šiti* 'sew', etc. Their correspondences in Balt have partly lengthened ≠ grade, as Li *bū́ti* 'be', *siū́ti* 'sew', partly full grade as Le *maût* 'plunge', Li *ráuti* 'pluck', *kráuti* 'superimpose'; but the levelings between the two verbal stems proceeded in opposite directions in Sl and Balt.

In general, Sl used *ī* and *ū* more extensively employing them in many morphological categories, especially in verbal derivation:

a) in forming second class intransitive verbs as opposed to transitives, e.g. OCS *gybnǫ* 'perish' (< **gūb-*) as opposed to *gubljǫ* 'ruin'; *vyknǫti* 'learn' (< **ūk-*), to *učiti* 'teach' (< **ouk-*); *rinǫti sę* 'rush', to *rějati* 'push'; *zinǫti* 'yawn', to *zijati* 'to open the mouth' (with *i* < ь); RChSl *stynǫti* 'get cool', to *studiti* 'to cool', etc.

b) in deriving subst from verbs as opposed to the underlying verbs, e.g. RChSl *kyj* 'hammer' (< **kūi̯-*) vs. OCS *kovǫ* 'forge'; R *zyk* 'shout' vs. OCS *zovǫ* : *zъvati* 'call'; R *byk* 'ox' vs. Sk, Sn *búkati* 'bellow'; OCS *plištь* 'noise' vs. *pleskati* 'clap'; also subst fem, e.g. OCS *kyka* 'hair' vs. R *kučerjávyj* 'curly haired' (Cf # grade in OCz *kčica* 'hair', Sn *kêčka* 'plait').

c) in forming iterative verbs from non-iteratives. Here two verbal types are represented, which probably reflect two chronological layers: fourth class verbs and third class verbs in *-a-/-aj-*. The first type, unproductive in the historically attested Sl languages, is represented by such examples as

	OCS *traviti* 'consume'	vs. (*na*)*truti*, *trovǫ* 'feed'
	slaviti 'praise'	*sluti*, *slovǫ* 'be known as',
also	*paliti* 'burn' (trans)	*polěti* 'burn' (intrans), etc.

The fact that this type is older, is revealed by the absence of any roots with lengthened # grade. Historically, these verbs might have been denominatives which established contact with *o*-root verbs only secondarily:

	1) *slovǫ*	*slava*	*slaviti*
and hence	2) *slovǫ*		*slaviti*.

The second type is still productive today with various modifications in the individual Sl languages. These verbs have lengthenings in both full grade and zero grade, e.g.:

1) *o* : *ō*: OCS *prostiti* 'forgive' : *praštati*; *prositi* 'ask' : (*vъ*)*prašati*; with a differentiation of meaning, *koriti* 'reproach' : (*po*)*karati* 'punish'; U *kropýty* 'sprinkle' : *krápaty* 'drip', probably of later date, joined these formations;

2) *e* : *ē*: OCS *pogreti* 'bury' : *pogrěbati*; *lešti* 'lie down' : *lěgati*; *tešti* 'run' : (*mimo*)*těkati* 'run by';

3) *i* : *ī*: OCS *dьrati* 'flay' : (*raz*)*dirati* 'tear'; *žьdati* 'wait' : (*o*)*židati*; *-mьrǫ* 'die' : (*u*)*mirati*;

4) *u* : *ū*: OCS *zъvati* 'call' : *-zyvati*; *dъmǫ* 'inflate' : (*na*)*dymati*; Sn *odgŕniti* 'uncover' : *odgrínjati*[7].

[7] The continued high productivity of this type of alternation in the individual Sl languages even today is attested by a series of *a*-forms in those verbs where *o* in the stem originated from ь or ъ and, thus, there was no historical prerequisite for alternation with *a*. Cf. R *výbrosit'* 'throw away': *vybrásyvat'* (**brъs-*), *zamolčát'* 'hush up': *zamálčivat'* (**mьlk-*), *zakormít'* 'overfeed': *zakármlivat'* (**kъrm-*); P *wymówić* 'utter': *wymawiać* (**mьlv-*); also *wlączyć* 'gear': *wlanczać*. In the stems which contained two *o*, the alternation sometimes spread to both: U *spólox* 'flash': *spaláxuvaty* 'to flash' (and hence also perfective *spalaxnúty*).

The iterative forms of the verbs with original *e* (group 2) are easily confused with those having *i* followed by a sonant. The reason for this confusion was that in most verbs *i* + S had a parallel form in *e*-grade, e.g. *bьrati* 'take' : *berǫ*, *mьrǫ* 'die' : **mer-* (OCS *mrěti*). Consequently, the verbs of this type admitted in their lengthened grade both *ē*-forms (to their *e*-forms) and *ī*-forms (to their *i*-forms). This confusion was transferred to *e*-grade verbs of other types. Examples of such confusion are found as early as the oldest ChSl texts: *pogrěbati* ~ *pogribati*, *sъplětati* ~ *sъplitati* 'weave', *prěrěkati* ~ *prěricati* 'argue', *sъžagati* ~ *sъžizati* 'burn'. It continues in the histories of the individual Sl languages, in which generalizations differed. E.g. R has *umirát'* 'die', *sobirát'* 'collect', *načinát'* 'begin' with the reflexes of *ī*, while Cz generalized reflexes of *ē* (which in Cz through *ě* changed into *í*): *umírati*, *sbírati* (OCz *umierati*, *sbierati*), *začínati*, and Sn has reflexes of *ī* before *r* but reflexes of *ē* before N: *umírati*, *zbírati* but *začệnjati*, *objệmati* 'embrace'. Bg went so far as to generalize *i* for those *e*-grade verbs which, to our knowledge, never had zero grade with *i*: *letjá* 'fly' : *lítam* like *izpletá* 'weave' : *izplítam*.

For discussion of the secondary *i*-forms of pres and imp in the suffixless 1st class verbs with *e* in the root, like OCS *rьkǫ*, *rьci* 'say' instead of *rekǫ*, *reci*, see 23,12.

The expansion of the lenthened zero grade was of crucial importance to the further history of Sl verb and word derivation. Phonemically, it only meant increased frequency in the use of the phonemes *ī* and *ū* which, in its turn, contributed to their more consistent incorporation in the system of full-fledged vowels and strengthened the tendency toward the elimination of their IE status of sonants.

11. Blended series in vowel alternations. Anomalous alternations. Along with the normal series of alternations, complete or more often incomplete (See 6, 7), Sl has certain series which combine alternants supposed to belong to different series.

Some of these can be explained as blendings of two etymologically separate roots. This is probably true of the doublets ChSl *prъžiti* ~ *pražiti* 'fry, dry', Sn *pȓžiti*, *pȓžim* ~ *prážiti*, *prâžim* 'stew', Bg *pə́rža* ~ *práža*, for which SC and M have the *r̥*-form *pržiti*, *pržīm* and resp. *prži*, WSl has *ro* (*rō*) stem: P *prażyć* 'roast', LS *pšažyś*, US *pražić*, Sk *pražit'*, Cz *pražiti*, and ESl has *re*N-forms: R *prjážit'* 'fry', Br *prěhčy*, U *prjahtý*. The non-Sl IE languages point to a *ro-* stem with its normal alternations being original: Li *spragěti* 'crackle', *sprógti* 'burst', Le *sprâgt*, OI *sphūrjati* 'buzz, hum', Gr σφαραγέομαι 'crackle', Norw *spraka* 'crack'. The *r̥*-alternant might be zero grade of *ro*-grade; but the fact that it so often occurs as a doublet of the *ro*-grade makes one suspect the possibility of a blending with the root of R *prýgat'* 'jump', Li *sprùgti* 'jump away', Le *spruga* 'clamp'. The ESl forms undoubtedly stem from a blending with some root belonging to N-series, possibly OCS (*vъ*)*prę̂sti*, *-pręgǫ* 'harness', R *zaprjáč'* : *zaprjagú*.

In the preceding instance the possibility of a blending, probably a twofold blending, is indicated by the presence of doublets in Sl; in the following example Sl has only *a* while the other IE languages have forms with *u*: R dial *smága* 'embers, heat, thirst', Br, U *smáha* 'thirst', P *smaga*, LS *smaga* 'sunburn', US *smaha* 'sun tan', Sk *smažit'* 'wither', Cz *smaha* ~ *smáha* 'brand', Sn *smága* 'sun tan', SC *smàgnuti* 'darken' vs. Arm *muχ* 'smoke', Gr σμύχω (aor pass ἐσμύγην) 'consume away', Ir *múch* 'smoke'. Consequently the Sl form is secondary. It might have arisen through a

blending with ChSl *pražiti* 'fry, dry'. That the blending was CS is obvious from the agreement of all the Sl data and, also, from the apophonic alternation which arose in this root at least in the NW part of the Sl area: LS *smogoŕ* 'peat', P *Smogor, Smogorzewo*, place-names.

Also the doublets R *xmúryj* 'gloomy': U *xmára* 'cloud', OCS *tunje* 'in vain' : P *tani* 'cheap' rather belong to such root blendings (*xmur-* and *mar-* 'fog', *tunj-* and G *Tand* 'trifle, valueless thing'). Cf. also US *wulki* 'big' as compared with *vel-* forms in other Sl languages, e. g. P *wielki*.

Individual cases of root blendings as illustrated by the above examples belong to etymology rather than to Sl historical phonology, even if they come from the prehistorical, i. e. CS period of time. But there are other series based not on blended roots but on the blending of series as such. Although they are anomalous they are not quite exceptions and should be examined here.

Such an example of the blended *e* and *eu*-series is (complete Sl data unless required are not cited in this and further examples):

R *norá* 'burrow', Sk *norit' sa* 'dip'; RChSl *vъnrěti, vъnьrǫ* 'penetrate', Sn *pondrẹti* 'dip' represent *or*, *er* and *r̥*-grades. Non-Sl correspondences are Li *nérti* 'clip', *nìrti* 'wind', *nãras* 'diver' (a bird's name), Le *nìrt* 'dip'. But R *(po)núrit'* 'hang (one's head)', P *nurzyć* 'plounge', R *nyrját'* 'dive' change the alternation to *ou, ū* reflexes, i. e. to the *u*-series. The reason for this switch from one alternation series to the other is evident: the two series obtained a common link when *r̥* changed into *ir* ~ *ur*. It was # grade of the *e*(*r*) series; it also was # grade of *eu*(*r*) series. New lengthening could proceed toward *ēr* as easily as toward *ūr*, but in this case moved toward *ūr*: R *nyrját'*. Graphically this switch may be presented as follows:

1) The original situation: two alternation series running parallel:

er : *or* : *r̥*
eur : *our* : *ur*

2) when *r̥* > *ur* the two series partially overlapped:

er ↘ *or* ↘ *ur*
eur ↙ *our* ↙ *ur*

Hence the new lengthening ↓ *ūr*

Another example of this type is OCS *derǫ* : *dьrati* 'tear' : *(raz)dorъ* 'scandal' : R *udár* 'blow' : U *dirá* 'hole', Cz *díra* (with *i* < *ě*), reflecting the grades *er, r̥, or, ōr*, and *ēr*. On the basis of *dьrati*, the new lengthening arose: M *udira* 'strike' (impf), with # grade in *udri* (perf). SC *dìra* 'hole' marks a switch to the *ei* series of alternations. The switch to the *eu* series is found in US *dyrić* 'hit', R *dyrá* 'hole', OP *dura*. Confusion of the three alternation series is clearly manifested in the variety of Sl forms of the word denoting 'hole':

ě-forms in U *dirá*, LS *źěra*, US *dźěra*, Sk *diera*, Cz *díra* (OCz *diera*), Sn *dẹ́ra*;
e-form in OP *dziora*;
i-forms in OCS *dira*, R dial *dirá*, Br *dzírka*, SC *dìra*;
y-forms in R *dyrá*, Pb *dárə* (dara);
u-forms in P *dziura*, OP and dial *dura*.

In the following examples the process of switch to the *u*-series is less clear because forms with *r̥*, the important intermediary link, are lacking. It is to be supposed that they existed in CS and were lost in its later development:

R *malína* 'raspberry' with the cognates of the root in Li *mė̃lynas* 'blue', OPr *mīlinan* 'blot' (acc. sg), OI *málas* 'dirt', Gr μολύνω 'befoul', μέλᾱς 'black', OHG *ana-mâli* 'blot', in Sl has alternation with a form of the *u*-series: R *mul* 'mud', P *mul*, Cz *mula*, SC *mûlj* 'alluvium', etc. (*ol* : *oul*). The linking *l̥* > *ul* grade is lacking

in Sl, but it is found in La *mulleus* 'reddish' and in Balt: Li *mùlti* 'get dirty', *mùlinas* 'red-yellow' along with *ou* grade: Li *mauliõti* 'get soiled'. Thus, this missing link should stem from the time of common Sl and Balt innovations.

The switch to the *u*-series is less obvious if *u*-forms (from *u*-diphthongs) have not arisen. But if there are forms with *y* (< *ū*) outside the morphological categories in which the new lengthening is supposed to have developed, one must at least be dealing with the beginning of such a switch:

OCS *polěti* 'burn', R *poléno* 'log' : *palít'* 'burn' : OCS (*pe*)*pelъ* 'ashes' vs. R *pylát'* 'blaze', *pyl'* 'dust', P *pyl*, Cz *pyl* ~ *pel* 'pollen';

RChSl *razperu* 'undo, rip' : R *porót'* : Sk *párat'* vs. R *pyrját'* 'jab'.

The last example shows that a switch to another alternation series might have had affective connotations just as with the formation of new length. This would make understandable such late formations in the individual Sl languages as R (*pere*)*polóx* 'rumpus' : *polyxát'* 'blaze'; Cz *láskati* 'smack, splash' : dial (Moravian) *luskat* : slang *liskat*, etc.

Switches to the *i*-series took place in R *oskólok* 'splinter' : *skalá* 'cliff' : *ščëlka* 'chink' : Sn *ščálja* 'splinter' vs. Br *ščýlina* 'chink' (if this is not a blending of the native **ščelina* with Li *skylẽ* 'hole').

Instances are also found in which a switch occurs between the *u* and *i*-series: OCS *muditi* 'linger', P *mudzić*, Sn *muditi* 'delay', Bg *múden* 'slow': OR *motčati* (< **mъdьč-*) vs. R *médlennyj* 'slow' (OR *mьdьlьnъ*); U *blýzna* 'scar', SC *blȉzna* 'flaw (in cloth)', Bg *blizná* vs. Br *bljuzná* 'scar', LS *bluzna*, US *bluzna*. Assumption of a simple root blending is hardly possible because the same phenomenon appears in Balt: Le *blaîzît* 'mash' vs. Le *blàugzna* 'scurf'. The following example is less convincing because the root is onomatopoeic: R *čixát'* 'sneeze': Br *čxac'*, U *čxáty*, P *czchać* vs. P, US *kichać*, LS *kichaś*, Sk *kýchat'*, Cz *kýchati*, SC *kihati*, M *kiva*, Bg *kíxam*.

Switches between the *i* and *u*-series may have originated in the vacillations between the *i*S and *u*S groups, indirectly proving that such vacillations occurred in more roots than those presented in section 5.

12. Chronology and historical background. The loss of syllabic sonants is one of the earliest Sl developments. Its relative chronology may be established with a great degree of probability. If one assumes (See 5,7) that the first push toward the loss of syllabic sonants was effected by the fall of laryngeals, the loss of syllabic sonants must be assigned to approximately the same period of CS development in which the aspirated stops lost their aspiration and the opposition of RP vs. FP arose. The wider area involving the change of aspirated stops may suggest that this phenomenon occurred earlier. The rise of pitch opposition must be assumed to have taken place more or less simultaneously with the loss of syllabic sonants. This is confirmed by the fact that *i*S and *u*S were treated intonationally as regular diphthongs while lengthened *ī*S, *ū*S obtained the same pitch as the long diphthongs (i.e. RP).

Another chronological clue is provided by the fact that syllabic sonants were lost at the time when vowel alternations inherited from IE were still lucid and morphologically relevant. Otherwise it would be impossible to explain why *i*S and *u*S groups, which arose from syllabic sonants before consonants, were so often transferred into prevocalic position where a zero grade was expected morphologically (5,8).

On the other hand, the loss of syllabic sonants preceded the development of *x* (from *s*) in Sl and the loss of palatovelars (See chapters 8 and 9). The former

is obvious from the fact that *x* after syllabic sonants does not affect the choice of *u*S vs. *i*S as other velars do: obviously at that time this was still *s*. Palatovelars, if preceding a syllabic sonant, also precluded its development toward *u*S (5,5). It must be assumed that at the time of the loss of syllabicity in sonants, palatovelars preserved their palatalized character.

Thus, the loss of syllabic sonants must be dated after the loss of aspiration in aspirated stops; approximately at the same time as the rise of phonemic opposition in pitch; and before the rise of *x* and spirantization of palatovelars.

This relative chronology furnishes certain historical indications through the method of geographical projection. The loss of aspiration in stops encompassed a broad area of IE dialects; the major characteristics of the loss of syllabic sonants and the rise of phonemic pitch are shared with Balt; the following changes, $s > x$ and spirantization of palatovelars in their specific Sl form were no longer common to Sl and Balt or at least the Balt as a whole (See 8,2; 9,2). On the basis of these observations one may posit a period of Sl-Balt common development, probably a transitory stage in the disintegration of IE. In terms of absolute chronology this period can hardly be exactly delimited. It was certainly concluded by the time of Sl-Irn contacts (begun in the seventh century B.C.) but this still leaves a period of about thirteen centuries.

More on Sl-Balt linguistic relations in 35,3.

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6. VOWEL ALTERNATIONS IN EARLY COMMON SLAVIC

1. General characterization. 2. Character of the evidence of vowel alternations. 3. Alternation *e* : *o*. 4. Old (IE) zero grade in Slavic. 5. Old (IE) long grade in Slavic. 6. Alternations of *a*. 7. Alternation series in Slavic: Examples. 8. Bilateral alternations.

1. A general idea of vowel (vocalic) alternations (apophony, *ablaut*) in CS was given in 2,2; the changes conditioned by the loss of syllabic sonants were discussed in 5,9–11. The problem must now be presented in its entirety because of its great significance in Sl phonology (as well as morphology).

Judging by the Sl evidence the oldest alternation must have been *e* : # and *o* : # because the *e* : *o* alternation still preserved some vitality in CS, while the alternation *e* : # and *o* : # according to the present evidence was no longer productive. But this might be due to the fact that the old (IE) # grade was greatly supplanted by the later (Sl) # grade and is very scantily represented in our data. Considerations by the Indo-Europeanists lead rather to the conclusion that the *e* : *o* alternation must be the oldest.

The alternation *e* : *o* arose in early IE under unclear conditions, possibly from a merger of the two vowels in unstressed position before sonants (*r*, *l*, N) (Kuryłowicz). Whatever the conditions, they ceased to exist long before CS began to form. In CS the alternation *e* : *o* was partly assigned to certain morphological categories (See section 3), and partly used in the non-motivated distribution of *e* and *o* based on tradition alone.

The alternation of both *e* and *o* with #, a quantitative alternation as opposed to the qualitative alternation of *e* : *o*, also belongs to early IE. The conditions under which the alternation with # arose are clearer. Undoubtedly, the decisive factor was the reduction of *e* and *o* to their reduced versions denoted usually as $_e$, $_o$, followed by the subsequent loss of these reduced vowels in certain positions, and their concomitant restoration as full-fledged vowels (vocalization) in other positions. In CS the alternation with #, like that of *e* : *o*, functioned either in certain morphological categories or as internally unmotivated remnants.

Since both *e* and *o* participated in the alternation with #, a system of triple alternations *e* : *o* : # was created making all three grades possible within the same morpheme.

Both the *e* : *o*, and *e*, *o* : # alternations encompassed *e* and *o* in diphthongs as well, as shown in 2,2, with the # grade represented by the second component of the diphthongs, assuming syllabic function between consonants: *ei* : *i*, *oi* : *i*, *eu* : *u*, *ou* : *u*, *er* : *r̥*, etc. The same occurred if the sonants were followed by *e* or *o*, e. g. *i̯e* : *i*, *u̯e* : *u*, etc.

Along with the alternation *e*, *o* : #, there was an alternation *e*, *o* : *ē*, *ō*. It first arose as "apophonic length" of *e* and *o* (See section 5) and later the fall of laryngeals created many more positions for this kind of quantitative alternation: the new long vowels, *ē* and *ō*, could and did enter into alternation with *e* and *o*. In addition, they (as well as *ā*) could alternate with the „vocalized laryngeals" in positions where those laryngeals were preceded by a zero rather than a vowel. Because in Sl laryngeals could have become *o* in such position, either phonetically or rather by eliminating an odd grade of vocalic alternations (See 2,6) virtually the same alternation with *ō*, *ē* (and *ā*) developed. Long sonants also arose (*ī*, *ū*, etc.) if a laryngeal was dropped after *i*, *u*, etc. Statistically, however, these cases were relatively few and the importance of this alternation was originally marginal.

Thus, the alternational possibilities CS inherited from IE were:

e :	*o* :	*ē* :	*ō* :	#
ei :	*oi* :	*ēi* :	*ōi* :	*i*
eu :	*ou* :	*ēu* :	*ōu* :	*u*
er :	*or* :	*ēr* :	*ōr* :	*r*[1]
el :	*ol* :	*ēl* :	*ōl* :	*l*
*e*N:	*o*N:	*ē*N:	*ō*N:	N
	ā :	*o*		
	i :	*ī*		
	u :	*ū*.		

The symmetry of the five member series must not be exaggerated. In many morphemes only two grades were represented, and even if a morpheme actually had more than two grades they usually functioned as paired oppositions. Thus, in practice the system was much less lucid and symmetrical than the chart would have it appear.

In its further development, CS added two more alternational types to this rather complex system: the new zero grade and the new lengthened grade, a change which resulted from the loss of syllabic sonants. As shown in 5,9 the new (Sl) # grade differed basically from the old (IE) one: while the old # grade comprised *r*, *l*, N, the new one was represented by *ir*, *il*, *i*N or *ur*, *ul*, *u*N. The new (Sl) lengthened grade encompassed all the sonants but was new in principle in the case of *i* and *u* which arose before sonants.

The scope of alternational possibilities, considering the above reservations about their asymmetry, was:

e	: *o*	: *ē*	: *ō*	: #
ei	: *oi*	: *i*	: *ī*[2]	
eu	: *ou*	: *u*	: *ū*	

[1] These *r*, *l*, N were syllabic between consonants and non-syllabic in a position next to a vowel, unless a laryngeal had been lost. Long sonants are not included in the chart.

[2] The long diphthongs had ceased to exist by that time and differed from the originally short (regular) diphthongs by intonation alone. See 4,14.

er : *or* : *r* : *ir* (*ur*) : *īr* (*ūr*)
el : *ol* : *l* : *il* (*ul*) : *īl* (*ūl*)
*e*N : *o*N : N : *i*N (*u*N): *ī*N (*ū*N)
ā : *o*.

2. Character of the evidence of vowel alternations. Even a brief outline of how vowel alternations arose in Sl suggests an intricate interplay. Several developmental layers partially overlap each other. Most of the reasons for the rise of vowel alternations were phonetic, rooted in conditions of stress or in certain changes stipulated by certain phonetic environments. But the termination of a phonetic change entailed obliteration of these conditions. Unstressed position causing reduction of vowels was no longer an unstressed position after the loss of reduced vowels, because stress cannot fall on nothing. Phonetic changes conditioned by a certain environment made this environment irrecognizable once the changes occurred. Hence, the very rise of alternations undermined the reason for their existence. Only those becoming affiliated with certain processes and categories of word inflection or derivation possessed some degree of vitality.

On the other hand, there was always a tendency in word inflection to eliminate vowel alternations, thereby simplifying the paradigm. This is understandable. This occurred because the principal marks of a certain morphological category in CS (as well as in IE) were endings, whereas vowel alternations were mostly redundant insofar as they only accompanied the changes in the endings.

In word derivation there were also intrinsic reasons for the gradual decay of the alternation system. Secondary associations between the derived word and its underlying form often proved stronger than the rules of alternation. For example an old "rule" of alternations required that a verb have *e* in its root but the derived noun have *o*. This requirement is met, e.g., in Mo R *rekú* 'I say' vs. *prorók* 'prophet'. In a back formation, i.e. a verb derived from *prorók* the expected form would be *prorekú* : *prorekáju*. Such verbal forms are not lacking, but as a rule they are avoided and the form *proróču* 'I prophesy' is generally used instead, based directly on the subst *prorók* and preserving the root vowel of the latter. Facts of such back-derivation if accumulated prove to be destructive for the whole system of alternations.

If one adds to these general considerations that certain layers of vowel alternations in Sl were contradictory (e.g. the two zero grades); that phonetic changes made vocalic alternations less and less lucid; that a certain percentage of words in any language becomes obsolescent in time including those essential for maintaining an alternation in a specific morpheme, it would be clear what the character of evidence is, which Sl presents for vowel alternations. This evidence is both meager and accidental. It consists of forms which have survived, but in most instances it hardly enables one to establish whether the vowel alternations of a certain morpheme were originally more developed. E.g. a root represented by R *sópli* 'snivel' and *sap* 'glanders' with their correspondences

in the other Sl languages continues the CS grades **sop-* and **sōp-*[3]. Theoretically, the grades **sep-*, **sēp-*, *sp-*, perhaps even **sip-* and **sup-* may be posited, but there is no possibility of verifying if and when CS had words with these grades. A linguist as a rule cannot reconstruct vocabulary no longer extant. Certain assumptions based on the geographic distribution of words and on theoretical considerations are sometimes possible but they are not binding and do not have a high degree of probability. In the above cited example, for instance, theoretical considerations would suggest that a verb with *e* as its root vowel should have existed. But all the extant verbs with this root, albeit of various structure, have *o* in Sl: R *sopét'* 'pant', U *soptý*, Sn *sópsti*, SC *sòpiti*. Probably they are back-formations from a noun.

The evidence of vowel alternations in Sl is sufficient to establish the possibilities of certain alternations; but it cannot ascertain to what extent these possibilities were materialized in each particular morpheme. Numerous remnants of the preceding system exist today, but never having been a harmonious system and never exploiting all the theoretical possibilities available it cannot be completely reconstructed for each specific morpheme.

The inconsistent and sometimes contradictory character of vowel alternations as provided by our evidence is especially obvious in series of alternating forms having no apparent connection between the alternation grades and the word meanings or categories; doublets occurring with different vowel grades but identical meaning; and cases of a certain grade inherited from IE, but being found only in Sl. In the following examples these types of evidence are illustrated.

a) Disconnected series of alternations. In the series represented by R *xólit'* 'cherish' : *šalít'* 'romp' : (*na*)*xál* 'impudent fellow' (CS **xol-* : *xēl-* : *xōl-*), the meanings are so divergent that only an etymologist may establish that these words had the same basic root. Historically, *-o* in *xólit'* points rather to its derivation from a noun now virtually lost (R dial *xólja* 'care' is rare and possibly secondary); in turn, this noun must have been based on a verb with **xel-* grade root, but it is unattested.

In the series represented by R *lápa* 'paw' : *lopáta* 'spade', *lopúx* 'burdock', *lópast'* 'blade' : *lépest* 'petal', with the roots going back to **lōp-*, *lop-* and *lep-*, there is again no motivation for the presence and distribution of the three vowels. The underlying verb with *e* as represented by Gr λέπω 'skin, flay' (where it is normally opposed to a noun with *o*: λοπός 'bark, shell') is missing. Historically, all the words are derived from this unattested verb, but obviously, in different epochs: *lepest* is based on it directly, the *o*-forms apply the alternation *e* : *o*, and finally, *lápa* is based on lengthened *o*.

Out of the plethora of disconnected series some further examples are:

[3] For a better understanding of the examples cited in this chapter a table of the main changes CS vowels underwent in their further development from CS to the historically attested Sl languages follows: *a* > *o*; *ē* > *ě* (after *j* and hushing consonants *ā*); *i* > *ь*; *ō* > *ā*; *u* > *ъ*; *ū* > *y*; before a consonant *ei* > *i*; *ai*, *oi* > *ě*; *eu* > *'u*; *ou*, *au* > *u*; *a*N, *o*N, *u*N > *ǫ*; *e*N, *i*N > *ę*; *ir*, *il* > *rь*, *lь* (*ur*, *ul* > *rъ*, *lъ*) in OCS; *or*, *ol* > *ra*, *la* in SSl, Sk, and Cz; *ro*, *lo* in P; *oro*, *olo* in ESl; *er*, *el* > *rě*, *lě* in SSl, Sk, and Cz; *rze*, *le* in P; and *ere*, *olo*/*ele* in ESl. Details and deviations from these main lines are treated in the following chapters of the book.

R *korč* 'tree stump' : *korýto* 'trough' : R dial *čerëvo* 'belly' : *čára* 'goblet' (**kr̥- : kor- : ker- : kēr-*);

R *(o)žerél'e* 'necklace' : *gríva* 'mane' : *górlo* 'throat' : *žerló* 'muzzle' : OCS *žьrati* 'devour' (**gʷer- : gʷr- : gʷur- < gʷr̥- : gʷir < gʷr̥-*);

R *ískra* 'spark' : U *jaskrávyj* 'shining' (**jis- : jois-*); cf. Li *iškùs* ~ *áiškus* 'clearly visible';

R *vodá* 'water' : *vedró* 'bucket' : *výdra* 'otter' (**u̯od- : u̯ēd- : ūd-*);

R *rudá* 'ore' : *ržávčina* 'rust' : *rýžij* 'red' (**roud- : rud- : rūd-*);

RChSl *xlǫdъ* 'rod' : OCS *xalǫga* 'fence' : R *(za)xolúst'e* 'remote place' : U *šéljuh* 'osier' (**skl- : skōl- : skol- : skel-*).

Disconnected series of the types cited above exist as series for an etymologist; in the languages in question they are but isolated words. Historically speaking, the reasons for disconnections, as seen in these examples, include: loss of underlying forms; parallel word derivation in different epochs, using the alternations productive at that time; back-formations blended with „normal" derivations; subsequent semantic developments; and subsequent sound changes.

b) Doublets. These are morphemes (words) which differ from each other only by their vowel grade. Otherwise, they have identical or almost identical form and reveal no difference in meaning which might be associated with the differences in their vowels. Doublets may exist within the same language or in separate languages.

Examples of doublets within the same language:

R *zarjá* 'dawn' (Cf. *zárevo* 'glow', OCS *zarja* 'glow' (Su)) along with R *zorjá* (Pl *zóri*), OCS *zorja* (PS, Su). The other Sl languages have *o*-forms: U *zorjá* 'star', P *zorza* 'dawn', Pb *zöri* (söhrü), LS *zorja*, Sk *zora*, Cz *zoře*, Sn *zórja*, SC *zóra*, M *zora*, Bg *zorjá* (**ǵʻor- : ǵʻōr-*);

Cz *župan* 'administrator of district' : OCz *hpán* 'sir, mister' (hence Cz *pán* 'mister', P *pan*) going back to **geup- : gup-*. In other Sl languages: Sk *župan*, Sn *župàn*, SC *žùpān*, Bg *župán*;

SC *klȇn* ~ *kljȅn* : dial *kȗn* 'maple' (**klēn- : kl̥n-*); *e*-grade is used in other Sl languages: R, Br *klën*, U, Sk, Cz, M, Bg *klen*, P, LS, US *klon*, Sn *klèn*;

Cz *jmelí* : *omelí* 'mistletoe', Sn *imȇla* : *oméla* (**jim- : jem-* or *om-*). The *i*-forms are represented in SC *ìmela*, M *imela*, Bg *ímel*; the full grade in other Sl languages: R, U *oméla*, P *jemioła*, LS *jemjelina*, US *jemjel*, Sk *omela*;

Cz *sluch* : *slech* 'hearing' (**slous- : slus-*).

Examples of doublets occurring in different Sl languages:

R *stépen'* 'degree', OCS *stepenь* (Su), Bg *stépen* vs. Br *stópen'*, P *stopień*, US *stopjeń* (**step- : stop-*);

R *strìž* 'martlet', P *strzyż* vs. LS *stšěž*, US *střěž*, Cz *střížlík*, Sn *strẹ̑žič* 'wren' (**streig- : stroig-*);

R *ščegól* 'goldfinch', Cz *stehlík*, Sn *ščȇgljec* vs. Br *ščyhól*, U *ščýhol'*, P *szczygiel*, LS *sćigelc*, US *šćihlica*. This word is probably onomatopoeic but the difference in root vowels may still go back to the peculiar alternation *e* : *ī*;

R *súslik* 'gopher', P *susel* vs. Bg *sósel* vs. Sk, Cz *sysel* might go back to **sous- : sus- : sūs-*.

The word for 'beaver' has doublets both in different Sl languages and within individual Sl languages: ChSl and OR *bebrъ* ~ *bobrъ*, P *bóbr* but river-name *Biebrz*, US *bĕbr* ~ *bobr*, Sk *bobor* but river-name *Bebrava*, Sn *bóber* ~ *béber*, Bg *bóbər* ~ dial *beber* vs. R *bobr*, Br *babër*, U *bibr*, gen *bobrá*, LS *bober*, Cz *bobr*. These fluctuations might have spread due to taboo, nevertheless they still operate within the familiar pattern *e* : *o*[4].

Doublets of this type, if not due to onomatopoeia testify to parallel word derivation from different ablaut grades. This is possible if they belonged to different

[4] SC *dȁbar* (with secondary *d-*) and Bg *bə́bər* obtained reflexes of *ъ* in the first syllable by assimilation to the vowel of the next syllable.

epochs, in which various types of alternations were productive; or if they arose at about the same time but independently in distinct areas. In either case, they show that the system of vowel alternations at a given time supplied speakers with more than the minimum possibilities necessary for a given word derivation.

c) An alternation grade that occurs only in Sl may be illustrated by the following examples:

OR, ChSl *pьstrъ* 'motley' (**pik'-*) is represented in other IE languages by a root with the diphthong *oi*: Li *paĩšas* 'stain', OI *péśaḥ* 'form, color', Av *paēsa-*, Gr ποικίλος 'many-colored', OHG *fêh*;

On the contrary, OCS *čudo* 'miracle' is based on a form with the diphthong (*eu*) while Gr continues *u* : κῦδος 'glory, honor';

In R *véko* 'eyelid', Cz *víko* 'lid', the root vowel goes back to *ē*; its counterparts in other IE languages are *o*, *ō* : Li *vókas* 'eyelid', Le *vâks*;

Sl continues *o*-grade in R *kóren'* 'root'; the non-Sl correspondences have *e* or ≠ grade: Li *kẽras* 'shrub, root', Le *cera* 'hair', Li *kìrna* 'pointed tree trunk', OPr *kirno* 'bush';

the same occurs in R *kromá* 'edge' vs. Li *krim̃sti, kremtù* 'bite', Le *krìmst, krèmtu* 'gnaw';

R *nos* 'nose' has non-Sl correspondences with *ā*-reflexes: Li *nósis*, OPr *nozy*, OI *nāsā*, Av *nāh-*, La *nāris*, OSw *nós* 'muzzle' (but Le agrees with Sl: *nãss*, and OPr has *ponasse* 'upper lip');

OCS *sěkǫ* 'chop' has *ě* from *ē*; outside of Sl, reflexes of *e* are attested in this verbal stem: OLi *išsekti* 'chisel', La *secō* 'cut out', Ir *ésgid* 'chop off'.

The usual correspondences of *ē* in OCS *sъměti* 'dare' are *ō*: Gr μῶσαι 'strive', La *mōs* 'will, custom', Go *mōþs* 'anger' (although Gr has μῆνις 'anger', too).

The diphthong *oi* is represented in R *kroít'* 'cut', U *krájaty* while other IE languages continue the ≠ grade (*i*) or *ei*: Li *krijà* 'rim (of the sieve)', Le *krijât* 'flay', Gr κρίνω 'divide', La *cernō* (< **crĭ-nō*), OIr *criathar* 'sieve', AS *hridder* 'riddle'.

In instances of that kind, the evidence indicates a loss of Sl words having grades other than the one represented in Sl or words having that grade in the involved non-Sl languages or both. The presence of ablaut proves IE origin for the roots in question. The loss of the common forms contributed to the loss of motivation in choosing the vowel.

Series of alternations which lost their motivation, redundant alternating forms, and forms which lost their alternation series, are all manifestations of the intricacy and lack of consistency in Sl vowel alternations. Nonetheless, the impact of vowel alternations on both Sl morphology and phonology was and still is of essential significance. In many cases CS phonetic changes were conditioned not only by the phonemic system but also by the system of alternations. Continually being reshaped by phonetic changes, constantly being deposited in morphology (regular, productive alternations) or in vocabulary (irregular, unproductive alternations), the alternations remained a lasting factor in the phonetic evolution of the language.

3. Alternation *e* : *o*. The alternation *e* : *o* operated in IE in the root, suffix, and theme morphemes. It was used in both word inflection and word derivation.

In declensional themes and/or predesinential suffixes historically attested Sl still shows certain *e* : *o* alternations although their use is very contracted compared with what it had been in IE. In consonantal stems *o* appears in the nom-acc sg of *s*- and masc *n*-stems, while in other cases it is replaced by *e*: nom-

acc sg **neb-os* : gen sg **neb-es-es* (OCS *nebo* : *nebese* 'sky'), nom sg **kām-ōn* : gen sg **kām-en-es* (OCS *kamy* : *kamene* 'stone'). The leveling proceeded farther in the *r*- and *nt*-stems which in historical Sl constantly have *e*: **māt-ēr* : *māt-er-es*, **agʷʻn-ent* : *agʷʻn-ent-es* (OCS *mati* : *matere* 'mother', *agnę* : *agnęte* 'lamb'). In the *u*-stems an IE alternation *ou* : *eu* is supposed to have characterized the oblique cases, and in *i*-stems that of *ei* : *oi*. These alternations are no longer found in historically attested Sl: *ou* is generalized in *u*-stems (OCS *synovi*, dat sg, *synove*, nom pl, etc., 'son'), *ei* in *i*-stems (OCS *gosti*, dat sg, *gostьe*, nom pl, etc., 'guest'). Finally, in *o*-stems *e* replaces *o* in the voc sg (OCS *rabe*! 'slave'). More remnants of *e*-forms can be found in adverbs, i.e. petrified case forms which lost their connection with declension. Such are adverbs in *-ě*, like OR *věrьně* 'truly' (Izb 1073), P *wielce*, OCz *velice* 'very', etc. They might go back to the forms in *-ē* (instr sg) or *-ēt* (abl sg), although some may be based on the loc sg of *o*-stems ending in *-ě* < *-oi*.

In verbal endings, the alternation *e* : *o* is best preserved in the simple aor with *o* occurring before sonants and *e* elsewhere: OCS *idъ* (1 sg; *-ъ* < **-om*), *idomъ* (1 pl), *idǫ* (3 pl), *idově* (1 du) vs. *ide* (2,3 sg), *idete* (2 pl), *ideta* (2 du), *idete* (3 du) 'go'. In the present tense paradigm of first, second and third class verbs *o* in 1 du and 1 pl is replaced by *e*: OCS *idevě*, *idemъ*.

The alternation *e* : *o* operated in derivational suffixes as well: *-et-/-ot-*: R *trépet* 'trepidation' vs. *tópot* 'tramp'; with the same root: Sn *klepèt* ~ *klopòt* 'clattering'; R *lépet* 'babble' : U *lópit*, gen *lópotu* 'knocking'; R dial *kóčet* 'rooster' : OCS *kokotъ*, etc. Examples are not rare. The present day distribution tending toward *-et-* after roots with a front vowel and *-ot-* after roots with a non-front vowel is probably secondary, although originating in CS. It may go back to the time when this derivational type arose from words with partial root reduplication typical of affective formations: **trep-ep-tātei*; thus the distribution of *e* and *o* in the suffixes only mirrored their distribution in the roots. The same applies to neuters albeit *-ot-* is rather rare: RChSl *teneto* ~ *tonoto* 'net, trap'; in fem OCS *kljeveta* 'slander' vs. *bljьvot(in)a* 'vomited stuff'.

-er-/-or- (and *-ter-/-tor-*): in numerals: R *čétvero* 'four' vs. SC *četvoro*; in pronouns: OCS *koterъ* 'which' and *kotorъ*; in subst: RChSl *kotera* 'feud' vs. OCS *kotora*.

The vacillation *inegъ* ~ *inogъ* 'griffin' in SChSl might also belong here; but this suffix is rare[5].

The examples cited do not exhaust the material, nor are all the Sl languages quoted in which the alternation *e* : *o* occurs in derivational suffixes. However, even if fully cited the data would be sparse for only a small number of words is involved and the alternation is not productive. These are the scanty remnants of a phenomenon already dead in CS.

In roots the alternation *e* : *o* was typical of the verbal paradigm and nominal

[5] The suffix *-ox(a)* as in R *projdóxa* 'cunning fellow' has a parallel form *-ëx(a)* as in R *babëxa* 'woman', etc., but these slang words must be relatively recent. They do not reflect the alternation *e* : *o* but have affective palatalization of the final root consonant: [bab'óxa] instead of ⁺[babóxa].

derivation from verbs. The opposition of *e* in pres vs. *o* in perf well represented in Gr forms like κλέπτω : (κέ)κλοφα 'steal' or λείπω : (λέ)λοιπα 'leave', is not reflected in attested Sl because the IE perf was completely lost in Sl. But other categories in which *e* alternated with *o* (verbal derivatives) are still visible in Sl.

a) Subst masc in *-os* derived from suffixless verbs (usually of 1st class) and denoting an action, or an agent, or the product of an action. The root in the verbs is characterized by *e*, in the subst by *o*[6]. Examples are numerous, cf. OCS *rekǫ* 'say' : *rokъ* 'term, law', *plěžǫ* (< **pelg'-*) 'creep' : R *póloz* 'runner (of a sledge)', OCS *grebǫ* 'dig' : *grobъ* 'grave', *ženǫ* 'drive' : R (*raz*)*gón* 'dispersal', OCS *razderǫ* 'tear' : *razdorъ* 'offence', R *beregú* 'guard' : U *oboríh*, gen *oboróhu* 'rick' (< **berg-* : *borg-*); also with a suffix in subst: OCS *tepǫ* 'hit' : R *tópot* 'tramp'. In certain instances the verbal root in pres has ≠ grade or lengthened grade instead of *e*. In such cases the inf usually has *e*. The derived subst is still characterized by *o*: OCS *tьrǫ*, inf *trěti* (< **ter-*) 'rub' : R (*za*)*tór* 'jam'; *zějǫ*, inf *zijati* (< **ǵ'ei-*) 'yawn' : U *zojk* 'howl'. The antiquity of some of these derived subst (the procedure was IE) is seen in such pairs with diverging meaning as P *ziębnę* 'freeze' : *ząb* 'tooth' (< **g'emb'-* : *g'omb'-*).

Numerous Sl subst which belong to the type examplified in the above paragraph do not have a suffixless verb with an *e*-root as their counterpart, e.g. in R alone: *grom* 'thunder', *god* 'year', *vor* 'thief', *gólod* 'hunger', *zvon* 'ringing' (as well as *zvuk* 'sound', from *zvǫkъ*), *suk* 'bough' (*u* < *o*N), (*o*)*skól*(*ok*) 'splinter', (*po*)*zór* 'disgrace', *cvet* 'color, blossom' (*e* < *ě* < *oi*), *slux* 'hearing' (*u* < *ou*), *dux* 'smell; spirit' (*u* < *ou*), *góv*(*or*) 'talk', etc. The absence of the underlying verbs with *e* may be explained by their loss. Sometimes such a verb can be unearthed in the non-Sl IE languages. E.g. *dux* finds its basis of derivation in Li *dvesiù*, *dvēsti* 'breathe' (< **du̯es-*. For metathesis of *u̯* see section 8). For most of these subst, however, no *e*-verb is to be found. In Sl most of them served themselves as a basis for the derivation of new verbs, mainly fourth class, partly preserving the same *o*-grade, as R *zvonít'*, *govorít'*, *zvučát'*, *slúšat'*, or having ≠ or lengthened grade as in R *gremét'* (< *grьměti*), *zret'* (<*zьrěti*), *dyšát'*.

Although the development could have been quite different in individual cases a general trend undoubtedly existed. The developments may be presented in three stages:

a. Verbs (usually of first class) with *e* in the root;

b. Derived subst with *o* in the root;

c. Secondary verbs derived from these subst, with *o*, ≠, or lengthened grade.

As a rule, the formations of a-type fell into disuse when and where the formations of c-type had spread.

A separate group comprises subst with the root vowel *o* followed by *j* or *v*, correlative with the verbs whose inf in the attested Sl languages have *i* or, respectively, *y*: R *bit'* 'bit' : *boj* 'battle', *brit'* 'shave' : SC *brôj* 'number', R *vit'* 'twist' :

[6] Cf in Gr. στρέφω 'turn': στρόφος 'cord', τρέχω 'run': τροχός 'wheel'. The two Gr (IE) types with root stress and theme stress are not distinguished in Sl.

P *powój* 'bindweed', R *gnit'* 'rot' : *gnoj* 'pus', *žit'* 'live' : *goj* 'hail', *lit'* 'pour' : *loj* 'tallow', *pit'* 'drink' : U *napóji* 'beverage' (pl), R *počit'* 'rest' : *pokój*, also R (*po*)*krój* 'cut', *roj* 'swarm', where the suffixless verbs with *i* as the root vowel are not attested; *kryt'* 'cover' : *krov* 'roof', *ryt'* 'dig' : *rov* 'ditch'. The verbal roots with *y* undoubtedly have it from *ū*; correspondingly, *i* in the roots of the other verbs must stem from *ī*. However, the possibility of at least some roots deriving *i* from *ei* cannot be completely ruled out, since the *e*-grade is the verbal counterpart of *oi* in the subst. It would be tempting to derive the difference in accentuation of, say, R *pilá* (pret fem sg) : *píli* (pl) vs. *bíla* : *bíli*, usually explained by a pitch mutation in the *l*-part (See 33, 8; also 4, 11), from the presence of the diphthong (*ei*) in *pit'* vs. *ī* in *bit'*. But this cannot be proved (no IE language points to *ei*-forms), and would not explain verbs of the type *dalá* : *dáli* 'gave' where no diphthong may be posited.

b) Subst fem in *-a* denoting action or products of action, derived from verbs with root vowel *e*. This type is also well known in Gr, e.g. στρέφω : στροφή 'turning', τρέπω : τροπή 'turn', La *tegō* 'cover : *toga*. In Sl some of these subst are based on suffixless verbs like the masc treated *sub* (a), but most are correlative with suffixed verbs of the third, fourth or, more rarely, second class. It is doubtful whether this indicates the more recent origin of these subst. In any case the category is IE, albeit productive in CS.

Examples based on first class verbs include: R *pekú* 'bake' : P *opoka* 'rock', RChSl (*vъ*)*nrěti* (< **ner-*) 'plunge' : *nora* 'burrow'; also OCS *sěkǫ* 'hew' (with lengthened *e*) : R *osóka* 'sedge'; also OCS (*pro*)*pęti* 'stretch' and SChSl *žęti* 'press', if their *ę* is from *e*N, with the subst resp. OCS (*o*)*pona* 'curtain', Sn *gom*(*ólj*)*a* 'lump'. Examples based on verbs of other classes are R *česát'* 'comb' : *kosá* 'plait', *trepát* 'scutch, pat' : *tropá* 'path', *strekát'* (and OCS *strěkati*, with lengthened *e*) 'prick' : *stroká* 'line', *ščemít'* 'jam' : (*o*)*skóma* 'feeling of having one's teeth set on edge', *treščát'* 'crack' (with *e* < *ě*, i.e. in long grade) : RChSl *troska* 'thunderbolt', R *velét'* 'order' : *vólja* 'will', P *ciągnąc* (< **te*N*g-*) 'drag' : OCS *tǫga* 'sorrow', etc. The verb with *e* as its root vowel is lacking in Sl in the case of R *kromá* 'edge', but is represented by Li *kremtù* 'bite, nibble'; R *doróga* 'road' eventually leads to Le *derglît* 'tear, drag', etc.

c) Subst belonging to *i*-stems (originally masc) derived from verbs with root *e*, and denoting products of action. This type is well known in Gr (cf. στρέφω 'turn' : στρόφις 'twisting, slippery fellow'; τρέπω 'turn, direct' : τρόπις 'keel'; τρέχω 'run' : τρόχις 'messenger'), but is hardly represented in Sl. It obviously became unproductive in CS and the further decay of the masc *i*-declension completely eliminated it. In masc, possibly SC (*pà*)*n*(*d*)*rāv* 'weevil' (< **-nor-*) belonged here, being based on the verb SChSl *ponrěti* (< **ner-*). In fem, R *mol'* 'moth' if based on *meljú* 'grind' may be cited.

d) In the verbal derivation in the narrower sense of the word, *o*-grade of the root vowel was used in IE to form causative and intensive verbs, as Go *sitan* 'be sitting' : *satjan* 'seat', Gr φέρω 'carry' : φορέω 'carry constantly', βρέμω 'ring' : βρομέω 'buzz'. In Sl *o*-grade became typical of the fourth class verbs connoting intensified action (iterative, undetermined, etc.), based on the first class verbs, e.g. R *brestí* 'make one's way' : *brodít'* 'wander'; *nestí* : *nosít'* 'carry', *vestí* : *vodít'* 'lead', *veztí* : *vozít'* 'drive', OCS *ženǫ* : *goniti* 'drive', *męsti* : *mǫtiti* 'discon-

cert', *tręsti* : RChSl *trǫsiti* 'shake', also OCS *tepǫ* 'hit' : (*u*)*topiti* 'drown', if the meanings can be reconciled. As a rule these fourth class verbs with *o*-roots have corresponding subst, also with *o*, formed according to (a). One may suppose that originally the *i*-class verbs in question were just secondary derivatives from subst; once formed, they entered into opposition with the first class verbs and obtained an intensified meaning. Thus, e.g. *brodít'* was derived from *brod-*, which in its turn was derived from *bresti*:

brestí ⟶ *brod*
brod ⟶ *brodít'*

with a secondarily established direct connection:

brestí ⟶ *brodít'*.

Some *i*-class verbs with *o* as the root vowel have no underlying first class verbs. It is possible that the latter did exist but have subsequently been lost. Cf., R *korít'* 'reproach', *lomít* 'break', *kurít'* 'smoke', etc.[7]

The secondary character of the intensive (iterative) function in *i*-class verbs would explain why they never became central in the development of iterativity in Sl: they never completely broke their connection with the subst from which (or it may be said via which) they were formed. If this is so, they did not correspond directly to the intensified verbs with *o*-grade in the root in Gr, and IE in general. They arose independently in CS as a peculiar continuation of the IE ablaut opposition.

Thus, CS inherited the IE alternation *e* : *o* and possibly even applied it to certain new categories. But in general this alternation ceased to be productive in CS. The fact that it was based on the first class suffixless verbs and that these verbs lost their productivity entirely was an important reason for this cessation. Nevertheless the alternation *e* : *o*, functioning in many words with high-usage frequency remained important in the development of CS. In the further phonetic evolution of Sl it contributed to the parallel development of *e* and *o*, a phenomenon which marked the history of CS (See, e.g., 11,11) and even the subsequent histories of individual Sl languages, virtually until today.

4. Old (IE) zero grade in Slavic. Zero grade in IE is supposed to have arisen in originally unstressed syllables both middle and initial if not adjacent to a vowel.

As mentioned in 6,1, the old # grade was represented in CS for *e* and *o* by the absence of any vowel, for diphthongs by sonants, syllabic in consonantal environments. In the further development of CS, the old # grade represented by, or adjacent to, a sonant, and often in other environments, was replaced by the new # grade with *i* or *u* (See 5,8). Only in alternation with *ei*/*oi* and *eu*/*ou* did the old # grade avoid modifications and major changes. In future examples

[7] In *i*-verbs *o*-grade was also used in the verbs derived from adj having *e*-grade: OCS *těšiti* 'console': *tixъ* 'still', (*o*)*cěstiti* 'purify': *čistъ* 'clean, pure' (**tois-* : *teis-*, **koid-* : *keid-*).

priority will be given to the old forms, but forms with the new ≠ grade will also be cited. It is not difficult to deduce the old ≠ grade from the newer forms. E.g. OCS *pljьvati* 'spit' goes back to **pl̥v-*, *mьněti* 'believe' to **mn̥-*, etc.

There are few cases in which forms with the new ≠ grade were innovations based on morphological levelings or on the reductions of a full grade vowel due to specific conditions of pronunciation. An example of the former is R *šédšij*, past part (< **xid-*) as opposed to *xodít'* 'walk'. If this were the old ≠ grade, i.e. with the form **xd-* it would mean that *x* arose before a stop, which was impossible (See 8, 1). Also articulatorily the cluster *xd* was hardly possible. Thus, it is evident that in **xid-*, *i* replaced not ≠ but a full grade vowel. This was probably caused by morphological leveling. There was an opposition between the pres tense stem and the stem used in past part, continued in OCS; cf. OCS *vlěšti* (< **velk-*)'drag' vs. past part form with reduction *vlьk-*. The newly derived verb (from the subst *xodъ*) had to follow suit and introduce this opposition secondarily.
An example of the new ≠ grade brought about by a specific manner of pronunciation is possibly supplied in dialects of CS by the numeral meaning 'four'. Its IE root **kʷetur-* is correctly represented[8] in R *četýre*, Br *čatýry*, U *čotýry*, Pb *citər* (zittir), SC *čètiri*, M *četiri*, Bg *čétiri* whereas P *cztery*, LS *styrjo*, US *štyrjo*, Sk *štyri*, Cz *čtyři*, Sn *štírje* lead to a form with (new) ≠ grade **čitūr-*.

Thus, it would be erroneous to project all new zero-grade forms back to early CS automatically. But the majority have safe parallels in the non-Sl IE languages thus warranting the IE origin of ≠ grade. Admitting a slight margin of error, most cases with the new ≠ grade may be deemed substitutes for the old ≠ grade forms. Keeping these reservations in mind, examples of the old ≠ grade and a brief outline of its history in Sl can be presented. Instances of its occurence in the historical Sl languages in actual zero form are infrequent and do not fit into any classification. They are but accidental survivals of a broader group:

**abl(u)-* : *abol-* 'apple'. Zero grade in R *jáblonja* 'appletree', Br *jáblynja*, U *jáblunja*, Sk, Cz *jabloň*, as well as in the names of the fruit: R *jábloko* 'apple', Br *jáblyk*, U *jábluko*, P *jabłko*, Pb *joptü* (goptgi), LS *jabluko*, US *jabłoko*, Sk, Cz *jablko*, Sn *jábolko*, SC *jȁbuka*, M *jabolka*, Bg *jábəlka*. Full grade in P, LS, US *jabłoń*, Pb *joblün* (jüblün), SC *jȁblān* 'poplar', Bg dial *ablán*;
**gl-* : *gol*. Zero grade in U *hlítnyj* 'crowded', Sn *glȏta* 'weeds', SC *glȍta* 'family; poor people', Bg *glóta* 'flock, crowd'. Full grade in R *gólyj* 'naked' (For meaning cf. U *holóta* 'poor people');
**dr(u)-* : *deru̯-*. Zero grade: OCS *odrъ* 'bed', R *odr*, Br *adrýna* 'barn', U *odrýna*, Sk *vôdor* 'threshing floor', Cz *odr* 'pale', Sn *oder* 'stand', SC *ȍdar* 'bed', Bg *ódər* 'board floor'. Full grade in R *dérevo* 'tree, wood';
**gu̯-* : *gou̯-*. Zero grade in P *gwar* 'hubbub'. Full grade in R *govorít'* 'speak';
**kr(i)-* : *kor-*. Zero grade in OCS *iskrь* 'nearest', R *ískrennij* 'sincere', Sn *ísker* 'nearby', SC *ȉskrnji* 'nearest', M *iskren*, Bg *ískren*. Full grade in R *kóren'* 'root';
**pr-* : *per-*. Zero grade in R *pret'* 'sweat; stew', Br *préć*, U *príty*, P *przeć*, LS *přěś* 'wither'. Full (lengthened) grade in R *par* 'steam';
sd-* : *sed-*. Zero grade in OCS *gnězdo* 'nest' which goes back to **ni-sd-os* (with supposedly secondary *g-* in Sl), as compared with OI *nīḍáh* 'bed, nest', La *nīdus*, etc. (ni* means 'down'). Full grade of **sd-* in Cz *seděti* 'be seated', etc.;
**tr(u)-* : *ter-*. Zero grade in OCS *trava* ~ *trěva* 'grass', R, Br, U *travá*, P, US

[8] Disregarding the secondary lengthening *u* > *ū* which yielded *y*.

trawa, LS *tšawa*, Sk, Cz, Sn, SC *tráva*, M *treva*, Bg *trevá* ~ *travá*. Full grade in R *terét'* 'rub';

*zl- (< *ǵ'l-) : *zel-*. Zero grade in ChSl, R, Bg *zl-ak* 'cereals'. Full grade in R *zel-ënyj* 'green';

*zn- (< *g'n-) : *zen-*. Zero grade in OCS *znati* 'know'. Full grade in OCS *zętь* 'bridegroom' (originally 'acquaintance').

In the word-initial position **s-* : *es-*: OCS *estъ* 'be' (3 sg) vs # grade in *sǫtъ* (3 pl).

A few more examples of unmodified (old) # grade are cited in 5,8.

In some rare instances a root in # grade can seemingly be reduced to just one consonant. Examples usually referred to are:

OCS *sǫdъ* 'judgment, verdict' consisting of a prefix *sǫ-* and the root *-d-* as in *děti* 'put, act', being # grade of the root **d'ē-*. Correspondences in other IE languages: Li *samdà* 'rent', OI *samdhìṣ* 'agreement';

OCS *dadętъ* 'give' (3 pl). This form like the other pres tense forms of this verb is based on the partially reduplicated root *da-d-*. In its second form the root occurs without any vowel. The form finds its exact parallel in OI *dádati* and to a certain extent in Gr διδόᾱσι.

Actually, in such cases the root ended in a laryngeal, as revealed by the length of the root vowel (**d'ē-*, **dō-*). The # grade consisted of *d* or *d'* + H. The loss of H created the illusion of a root composed of a single consonant.

The alternation *e*, *o* : # in Sl could have occurred in root, suffix, and theme morphemes.

In other IE languages, in the declensional themes and/or predesinential suffixes it is well attested for consonantal stems in *-r*:

	OI		Gr	Go
Nom sg	*pitā́*		πατήρ	*broþar*
Instr sg	*pitrā́*	Gen sg	πατρός	*broþrs*
Dat sg	*pitré*		πατρί	*broþr*
Acc sg	*pitáram*		πατέρα	*broþar*

Historically attested Sl no longer maintains any alternation with # in *r-* or other consonantal stems. Instead Sl preserved the alternation with # in *u* and *i*-stems until the monophthongization of diphthongs made it irrecognizable. E.g., the voc and gen sg had the full grade in the theme *-ou* and *-ei* (*-ous* and *-eis*), hence in OCS (*syn*)*u* 'son', (*nošt*)*i* 'night', while the nom and acc sg had # grade, i.e. *-us* and *-um*, *-is* and *-im*, hence in OCS (*syn*)*ъ*, (*nošt*)*ь*.

The alternation *e*, *o* : # in derivational suffixes has been lost in CS. Possible survivals may be, in the suffix *-ter* : *-tor* : *-tr*, isolated instances as U *kótryj*, US *kotry* vs. OCS *ko-tor-ъ* ~ *ko-ter-ъ* 'which'. The same form of the suffix is possibly presented in OCS *větrъ* 'wind' (to *věјati* 'blow') and *utro* 'morning'.

In roots, the alternation *e*, *o* : # characterized the declension of root nouns in IE. E.g. OI had nom sg *kṣāmaḥ* vs. gen sg *kṣmaḥ* 'earth', nom sg *pánthāḥ* vs. instr sg *pathā́* 'road' (with *a* < *n̥*). For 'nose' the IE paradigm is reconstructed (Kuryłowicz) as nom sg *nōs*(*s*), acc sg *nósm̥*, gen sg *n̥sés*, dat sg *n̥séi*, nom pl

nóses, etc. Again, historically attested Sl does not have this type of declensional alternations.

Like the alternations *e* : *o*, the alternations *e*, *o* : # in Sl proved to possess more vitality in verbs. Two cases in which IE applied zero grade, Sl retained and broadened, in a modified form: aor stems and verbal stems with infixation.

IE opposition of *e*-grade in pres vs. # grade in aor as attested, e.g. by Gr πέτομαι : ἐπτόμην 'fly', φεύγω : ἔφυγον 'flee', λείπω : ἔλιπον 'leave', was broadly used in Sl for first and third class verbs which take the suffix *ā* in their inf (aor) stem. In the historical Sl languages this # grade appears in its modified (Sl) form, i.e. with *i* (or *u*), e.g.:

First class : OCS *berǫ* : *bьrati* 'take', *perǫ* : *pьrati* 'fly up', *derǫ* : *dьrati* 'flay', *ženǫ* : *gъnati* 'drive', *zovǫ* : *zъvati* 'call', *židǫ* : *žьdati* 'wait';

Third class: OCS *jemljǫ* : *jьmati* (spelt *imati*) 'take', *črěpljǫ* : *črьpati* 'scoop', *plěžǫ* : *plьzati* 'crawl', *steljǫ* : *stьlati* 'spread', *bljujǫ* : *bljьvati* 'vomit', *kljujǫ* : *kljьvati* 'peck', *pljujǫ* : *pljьvati* 'spit', *žujǫ* : *žьvati* 'chew', *ziždǫ* : *zьdati* 'build', *pišǫ* : *pьsati* 'write', *stružǫ* : *strъgati* 'lacerate', *ližǫ* : OCz *lzáti* 'lick'.

The forms **serbǫ* : **sirbati* may be reconstructed on the basis of OCS *srьbanie* 'something to sip'; U *bháty* 'knead' compared with R *bugór* 'knoll' enables one to reconstruct the inf **bъgati*. ChSl *pьxati* 'pound', Sn *pŕskati* 'splash' along with Bg *prəskam* should have belonged to the same type. There are more verbs which supposedly had *e* : # in CS but lost the alternation by the time Sl was recorded: OCS *lъgati* 'tell lies', *sъsati* 'suck', *tъkati* 'weave', etc. generalized # grade of the inf stem (*lъžǫ*, *sъsǫ*, *tъkǫ*); *kovǫ* : *kovati* 'forge', *klepljǫ* : *klepati* 'inform', *pleštǫ* : *pleskati* 'clap', *češǫ* : *česati* 'comb', *tešǫ* : *tesati* 'fell, hew', *stenjǫ* : *stenati* 'groan', *plovǫ* : *pluti* 'float', *slovǫ* : *sluti* 'be renowned', *rovǫ* : *ruti* 'roar', *pojǫ* : *pěti* 'sing', etc. in OCS have generalized the full grade of pres. However, remnants of # replacing *e* in the inf stems in *-ati* are so numerous it may be assumed that this alternation was fairly regular in CS. As in the case of the alternation *e* : *o* in *i*-verbs derived from suffixless first class verbs (See section 3), the alternation inherited from IE was also associated with the presence of a particular suffix, in this case the suffix *a*. Over time this secondary concomitant characteristic made the alternation redundant and led to its gradual elimination.

The opposition of full grade to zero grade as a productive device in the opposition of pres vs. aor was transferred in a peculiar way into a small group of first class suffixless verbs whose pres was built on the IE aor stem and consequently had # grade. They took the opposite grade for their inf (aor) stem, viz. the full grade. Such verbs as represented in the historical Sl languages were (OCS) (*pro*)*stьrǫ* : *-strěti* 'spread', *vrьgǫ* : *vrěšti* 'throw', (*po*)*žьrǫ* : *-žrěti* 'devour', (*o*)*pьrǫ* : *-prěti* 'lean', *tlьkǫ* : *tlěšti* 'knock'; cf. cases with diphthongs (*ei*, *ou* : *i*, *u*): OCS *čьtǫ* : *čisti* 'count', *cvьtǫ* : *cvisti* 'bloom'; ChSl *sъpǫ* : *suti* 'strew' (with *p* dropped before *t*), etc.

An interesting example of the blending of the two groups is OCS *črěpljǫ* : *črьpati* 'draw' having a doublet with an opposite distribution of grades (*po*)*črьpǫ* : *-črěti*, following the type *mьrǫ* : *mrěti* 'die'. Possibly another case of such a blending is found in OCS *vlěkǫ* : *vlěšti* 'drag'. Zero grade is lost in pres, but it may

still be seen in part pret *vlъklъ*. Of the two alternation types the second (*vrъgǫ* : *vrěšti*) may have been limited not only genetically (aor stem utilized in pres) but also phonetically, being used only in verbal stems with *r* and *l*, plus a few verbal stems ending in a stop (*t*, *p*).

In fourth and second class verbs # grade is systematically used with the suffixes *-ě-* (< *ē*) and *-nǫ-* respectively throughout the whole paradigm as a device of verbal derivation. Here again a certain grade of root vowel is tied to a specific suffix.

In the fourth class verbs with the suffix *-ě-* denoting condition or situation, the alternation occurs, if at all, in relation to verbs with other suffixes, e.g. OCS *bъděti* 'be awake' as opposed to (*u*)*buditi* 'wake' (Cf. in section 3 for the use of *o*-grade in *i*-verbs), *grъměti* 'thunder' : R *gromít'* 'smash', OCS (*pri*)*lьpěti* 'cling' : (*pri*)*lěpiti* 'attach', *mrъzěti* 'be abominable' : R *morózit'* 'freeze', OCS *zьrěti* 'see' : R dial *zórit'* 'look', OCS *svьtěti* 'shine' : *svitati* 'dawn', SChSl *zvьněti* 'be ringing' : R *zvonít'* 'ring'. Cf. also OCS *mlьčati* 'be silent', *blьštati* 'shine', *drъžati* 'hold', *smrъděti* 'smell', *trьpěti* 'be patient', etc.

Exceptions if not onomatopoeic or new formations automatically reproducing the grade of the underlying word (as R *stučát'* 'knock') indicate that in the deviating *-ē*-formations a special verbal stem was used, of the aorist as in (OCS) *ležati* 'lie', *sěděti* 'be seated', *běžati* 'run' or of the perfect as in *bolěti* 'ache', *gorěti* 'burn'. Some of these look very archaic; possibly they were formed before the connection of # grade with the *-ē-* suffix was established; these forms were later preserved as anomalies because of the high frequency of word usage. Otherwise Sl shares the use of # grade in these forms with Balt and possibly Germ.

In the second class verbs (*-ne-*/*-no-* suffix), the inchoative verbs were characterized by the use of # grade without any alternations in the paradigm, e.g. OCS (*is*)*trъgnǫti* 'pull out', (*vъ*)*dъxnǫti* 'inhale' (Cf. (*za*)*dušiti sę* 'play the coward'), (*u*)*trь*(*p*)*nǫti* 'become lame', *tlьknǫti* 'knock', *mrъknǫti* 'grow dark '(Cf. (*o*)*mračiti* 'obscure'), (*iz*)*mъknǫti* 'pull out', *tъknǫti* 'push', (*pri*)*lьpnǫti* 'cling' (Cf. (*pri*)-*lěpiti* 'attach'). Some verbs derived from adj are in all probability new Sl formations. They follow the general pattern of alternation, an indication of its productivity in CS, e.g. OCS (*u*)*glьbnǫti* 'sink' – cf. R dial *glyb* 'depth'; *sъxnǫti* 'dry up' – cf. OCS *suxъ* 'dry'; (*o*)*xrъmnǫti* 'become lame' – cf. OCS *xromъ* 'lame'; (*o*)*slьpnǫti* 'get blind' – cf. OCS *slěpъ* 'blind'; (*o*)*glъxnǫti* 'get deaf' – cf. OCS *gluxъ* 'deaf'.

The use of # grade in the *-ne-*/*-no-* inchoative verbs probably goes back to # grade in IE verbs with nasal infix. Only five such verbs are found in historical Sl: OCS *bǫdǫ* vs. *byti* 'be', *lęgǫ* vs. *lešti* 'lie down', (*ob*)*ręštǫ* vs. *obrěsti* 'find', *sędǫ* vs. *sěsti* 'sit down', and *gǫdǫ* 'play music'. As usual, *ę*, *ǫ* in Sl is ambiguous: these vowels may have arisen from N̥ or from ĕN, ŏN. However, comparison with non-Sl IE languages points rather to a # grade[9]. For *bǫdǫ* La *-bundus*

[9] Excluding *gǫdǫ* with its Li counterpart *gaudžiù* 'sound'. But the nasalization in this root is of a later date, after the monophthongization of *u*-diphthongs; it also occurs in the inf stem of this verb.

may be taken into consideration, for *sędǫ* OPr *sindats* 'seating'. The other forms arose in Sl by analogy. In IE, the root vowel was in ≠ grade if used with the nasal infix or with genetically related nasal suffixes *-nā-*, *-neu-*, cf. La *iūgum* 'yoke' but *iungō* 'connect', OI forms of the type *yunákti* 'connect' (3 sg pres) as opposed to perf *yu-yója*, and of the type *badh-nā́-ti* 'tie' (*ba-* < **bʿn̥-*), *stu-nó-ti* 'praise'.

The Sl innovation consisted of making this procedure highly productive and of using it for characterization of inchoative verbs.

In the historically attested Sl languages there naturally are also second class verbs preserving the full grade vowels of the word from which the verb was derived, as well as verbs with (new) lengthening. The former group is due to analogy; it supposedly arose after the procedure of zeroing the root vowel, before the *-ne-/-no-* suffix, became unproductive (About the latter see 5,9).

5. Old (IE) long grade in Slavic. Length of vowels in IE was particularly typical of *e* and *o* (*e* : *ē*, *o* : *ō*). About *ā* see section 6, about *ū* and *ī*, 5,9 and 6,1. The sources of long vowels in IE were manifold. Some probably resulted from contractions, others from substitutive lengthenings compensating for the loss of *ₑ*, *ₒ*. More important procedures which led to the rise of length in IE were the special kind of morphological analogy called *vr̥ddhi* (the name used by OI grammarians to denote reflexes of long diphthongs in OI) and the loss of laryngeals, a later but at least partially IE phenomenon.

The procedure of vr̥ddhi was based on the concept of length as the addition of *e* (or *o*), the concept which was transferred from diphthongs to monophthongs. In diphthongs, full grade such as *eu*, *ei* or *ou*, *oi* corresponded to ≠ grade *u*, *i*. The vowels *u*, *i* were functionally ≠, but phonetically they were short, having brevity like *e* and *o*. Hence the procedure of adding *e*, *o* was applied to *e*, *o*, according to the proportion

$$u : eu = i : ei = \breve{e} : \text{x};\quad \text{x} = \breve{e} + \breve{e} = \bar{e}$$

and in the same way

$$u : ou = i : oi = \breve{o} : \text{x};\quad \text{x} = \breve{o} + \breve{o} = \bar{o}.$$

This IE "vr̥ddhi" (apophonic length) did not arise from every *e* and *o*, but only from those used in the morphological categories characterized by full-fledged diphthongs. In this sense it was morphologically conditioned and was thus distinguished from phonetically conditioned lengthenings based on contraction and compensation.

As for laryngeals, their loss in positions after vowels, made these vowels long according to the formulae $e + \text{H} > \bar{e}$, $o + \text{H}$ (or $e + \text{H}_3$) $> \bar{o}$, $a + \text{H}$ (or $e + \text{H}_2$) $> \bar{a}$, $i + \text{H} > \bar{\imath}$, $u + \text{H} > \bar{u}$ (see 2,6).

Morphologically, length of *ē*, *ō* in IE marked suffixes of consonantal (*-r*, *-n*, *-s*) and athematic stems in the nom sg and the formation of the aor. The former, still immediately obvious in OI nom sg *pitā́* 'father' as opposed to acc sg *pitáram*, Gr nom sg πατήρ as opposed to acc sg πατέρα, could be traced in histo-

rical Sl only in *n*-stems: OCS nom sg *kamy* 'stone' (with *-y* < *ōN) vs. acc sg *kamenь*.

In the aor the long grade is well preserved by OI and La. Historical Sl still had long grade in the roots of first class verbs in the sigmatic (*-s-* and *-x-*) aor: OCS *grebǫ* : *grěsъ* 'dig', *nesǫ* : *něsъ* 'carry', *vedǫ* : *věsъ* 'lead', *tekǫ* : *těxъ* 'run', *žegǫ* : *žaxъ* 'burn', *rekǫ* : *rěxъ* 'say', (cf. OCz *rziechu*, 3 pl), *bodǫ* : *basъ* 'pierce', and also probably *čьtǫ* : *čisъ* 'count', *cvьtǫ* : *cvisъ* 'bloom'.

Both in the nom sg and aor, lengthening was hardly productive in CS. One finds only scanty petrified remnants in the earliest Sl records. This, of course, may be due to the fact that both the consonantal type of declension and the sigmatic aor were dying out as morphological categories at the time of these records.

IE patrimony was preserved in Sl in distinguishing between prepositions (prefixes) with full and long grade of their vowel: Sl *po-* as opposed to **pō-*, *pro-* to **prō-*, also *poz-* to **pōz-*, e.g. OCS *pogubiti* 'destroy' : *paguba* 'corruption', *prodьliti* 'lengthen' : *pradědъ* 'forefather', *pozdě* 'late' : *paznegъtь* 'clow', although their distribution was subject to a new principle. In IE it was phonetically regulated, long forms occurring primarily before or between short syllables; in Sl *pō-*, *prō-*, *pōz-* primarily characterized nouns, *po-*, *pro-*, *poz-* verbs[10]. In case of the particle *bo* ~ *ba* (< **bo* ~ *bō*) used in R, U, P, Cz, etc., one type was generalized in individual Sl languages.

Otherwise, examples of the old (IE) long grade in Sl are scattered and one cannot categorize them definitively. It is possible that lengthening characterized *i*-stem subst derived from words with full-grade vowels. Cf. OCS *rešti* 'say' : *rěčь* 'word, speech', *tvoriti* 'make' : *tvarь* 'creation', *želěti* 'wish' : *žalь* 'sepulchre' (**gʷʻel-* : *gʷʻēl-*), P *grono* 'bunch' : LS *grań* 'bunch', R *gorét'* 'burn' : *gar'* 'burning'. Bg *Maríca*, a river-name, should also be included if it has the same root as (OCS) *morje* 'sea' and goes back to an *i*-stem **măr(is)* (Cf. R *gran'* 'verge' : *granícа* 'border'). In Cz *havět'* 'vermin; mob', this alternation possibly was transferred to a disyllabic word, cf. *hovado* 'cattle'. It is paralleled by plant names (hound's-tongue, comfrey): R *gávjaz*, Sn *gȃvez*, SC *gȁvez*, Bg *gávez*. But the number of examples is limited and some are dubious. In addition, it is difficult to delimit the forms with old and new length (See 5,10) and some of the cited examples may belong to the latter.

In pairs like R *gómon* 'hubbub', Sn *gomòt* 'swarm, confusion' vs. R *gam* 'din' or R *ščepá* 'chip' vs. R dial *ščap* 'notch', the lengthening could have had an affective character. This might also be applied to R *zarjá* 'dawn' as a variant of *zorjá* (See section 2).

The alternation *ē* : *ō* existed in Sl at the time when the alternation *e* : *o* was productive in morphological categories. This is seen in pairs where a verb or subst with *ē* has its counterpart formed with *ō*, viz. a verb of fourth class in *-i-*,

[10] In *pozdě* (< **pos* + *d-*, with the first component cognate of La *post* 'after'), the root goes back to **dʻē-* and is, consequently, verbal. The reduction of the root to *d-* is of the same type as in OCS *sǫdъ* and was treated in 6,4.

thus reproducing in the long grade the alternation *e* : *o* typical of full grade, e.g., OCS *(iz)lěsti* (1 sg *lězǫ*) : *(iz)laziti* 'come out', *rězati* 'cut' : *(po)raziti* 'strike', cf. also P *gad* 'reptile' : *żadzić się* 'nauseate'; OR *ov-adъ* 'gadfly' : *ěsti* 'eat' if *ovadъ* is a compound meaning originally '(insect) eating sheep' (Trubačev), cf. R *ov-cá* 'sheep'.

If the words with full grade were preserved, a quadruplex system was formed. This is true of the root *rek-*:

OCS *rešti* 'say'	: *rokъ* 'term'
rěčь 'speech'	: *račiti* 'like'.

But such symmetrical groups are rare. Usually the presence of a pair with vowels in a certain grade led to absence of the pair in another grade. At best, three members are represented:

OCS *meljǫ* 'grind'	: *mlatъ* 'hammer' (< **mol-*)
mělъ 'chalk'	: (no *ō*-grade).

Those members of alternation series usually survived which had developed specific semantic connotations, as shown in the above examples. If the words differed in their affectivity alone, one of the words (or pairs) was usually eliminated. In many cases a quadruplex system has never been formed. No language has ever used all the possibilities it possessed.

6. Alternations of *a*. The frequency of *a* in IE was low. It is not necessary to deny its existence in original IE, but it is true that it was mainly used, outside of affective vocabulary and what seems to be loan words, in the initial position, e.g., OCS *osь* 'axis' – Gr ἄξων, OCS *ostrъ* 'sharp' – Gr ἄκρος 'upper', OCS *ǫglъ* 'angle' – La *angulus*. IE *a* had no alternations. What seems to be an alternation *a* : #, as in Sl *na* 'on' vs. Av *ana* 'along', Gr ἀνά 'on', Go *ana* could have been a prothetic vowel in the non-Sl examples.

The main source of *ā* was *a* + H. Those who posit *ə* for early CS also assume its vocalization in initial syllables as *ă* (which later, in disintegrating CS became *o* as did *ă* of any origin). The advocates of *ə* also posit the alternation *ā* : *ə* becoming *a* : *o* in historical Sl. The data however are extremely meager and unreliable. Two examples are usually cited: RChSl *ba-jati* 'tell' : U *(za)bo-bó-ny* 'nonsense, superstitions' (with reduplicated root) as corresponding to Gr φημί 'say' : (πρό)φασις 'allegation', and OCS *stati* 'stand up' : *stojati* 'stand' as corresponding to Gr (ἵ)στημι 'stand' : στατός 'standing'. But the etymological connection between *bajati* and *zabobóny* is uncertain, and the alternation *a* : *o* in the other pair can be accounted for morphologically, on the basis of vowel alternations, as shown in 2, 6.

A Sl peculiarity is length (or lengthening) of the initial *a-* in the words (R) *jábloko* 'apple', *jagnënok* 'lamb', *jarmó* 'yoke', OR *jazьno* 'leather' (*j-* here is a secondary prothesis, see 16, 5) as compared e.g. to Go (Crimean) *apel*, La *agnus*, Gr ἄρμενος 'attached', OI *ajínam* 'fell, fur'. Balt shares this length in Li *óbuolas* 'apple', *ožỹs* 'goat' (The two other roots are not represented in Balt).

7. Alternation series in Slavic: Examples. In the preceding section examples were usually cited in pairs. The following examples are presented in series to make the variety and richness of Sl vowel alternations more visible and to show how haphazard the presence or absence of a given grade may be in a particular root. Forms probably due to new (Sl) lengthening are given in parentheses.

	e-grade	*o*-grade	*ē*-grade	*ō*-grade	# grade
OCS	*grebǫ* 'dig'	*grobъ* 'grave'	*grěsъ* (aor)	*grabiti* 'snatch up'	Cz *pohřbíti* 'bury'
R	*doróga* 'road'	*derezá* 'false acacia'			*dërgat'* 'jerk'
OCS		*pozorъ* 'spectacle' and *zrakъ* 'seeing'		*zarja* 'dawn'	*zъrěti* 'see', *zrъcalo* 'mirror'
R	*ščepá* 'chip'	*skopít'* 'emasculate'	Bg (*štap* 'stick')		
Sn	*dléto* 'chisel' (< **delbt*-)	Cz *dláto*			Sk *dlbat'* 'hollow'
OCS	*veléti* 'order'	*volja* 'will'			*dovьlěti* 'suffice'
OCS	*zelenъ* 'green'	*zola* 'ashes'			*zlъčь* 'gall'
Cz	*pelun* 'absinth'	R *polýn'*		(*palít'* 'burn')	
R	*strémja* 'stirrup'	Cz *strom* 'tree'			OCS *strъmь* 'completely'
R		*gorét'* 'burn'	*žar* 'heat'	*ugár* 'coal gas'	*gret'* 'warm'
R	*člen* 'limb'	*koléno* 'knee'			US *klin* 'bosom'
R	*veretenó* 'spindle'	*vórot* 'collar'			SC *vŕteti* 'turn'

In the alternation series of the diphthongs *ei*, *eu*, the historically attested Sl reflexes do not distinguish the original full and long grades immediately. This difference may be established only through intonation and reference to non-Sl IE languages. In certain cases the attribution is dubious. In the following table the columns of long diphthongs are omitted. Instead, particularly for the *u*-series, the examples of new length are introduced (See 5, 9).

	eu-grade	*ou*-grade	*u*-grade	*ū*-grade (new length)
OCS		*luča* 'ray'	R *losk* 'gloss' (< **luksk*-)	*lýsyj* 'bald'
R		*kuznéc* 'smith'	OCS *kъznь* 'plotting'	Cz *kyj* 'club'
SC	*žúriti se* 'hurry'	*gúrati* 'push'		
OCS	*čudo* 'miracle'	*kuditi* 'blaspheme'		
Bg	*čur* 'smoke'	R *kurít'* 'smoke'		
SC		*lùbanja* 'scull'	OCS *lъbьnъ* 'scull-'	R *ulybát'sja* 'smile'
OCS		*runo* 'fleece'	R *rot*, gen *rta* 'mouth'	*ryt'* 'dig'

	ei-grade	*oi*-grade	*i*-grade	*ī*-grade (new length)
OCS	*pitati* 'feed'	*pěstunъ* 'educator'		
R		*pest* (*e* < *ě*) 'stamper'	OCS *pъšenica* 'wheat'	R *pixát'* 'push'
R	*vit'* 'weave'	OCS *větvь* 'twig'	R *vetlá* (< **vьtъla*) 'willow'	
OCS	*cvisti* 'bloom'	*cvětъ* 'flower'	*cvьtǫ* 'bloom' (1 sg) (Cf. P dial, Mazovian *kftę*)	

These examples present alternations before consonants. For alternations of *ei*, *eu*-diphthongs before vowels see 19, 9 and 20, 8.

8. Bilateral alternations. Without going into details concerning the theory of IE stem (as based primarily on findings and hypotheses of Benveniste), one may recall that the IE stem is supposed to have had two alternating forms: CVCC and CCVC. At least one of the consonants was a sonant. Loss of the vowel after the first consonant automatically required appearance of a vowel after the second consonant. Due to morphological agglomerations and redistributions and, in particular, to sound changes of which the most detrimental to this root structure was the loss of laryngeals, in late IE and early CS this system became marred, obsolete and opaque. It may be assumed that many stems became indivisible and functioned as mere roots with much less orderly structures; dropping the first vowel no longer engendered the automatic appearance of the second vowel. Stems of the type CCC became possible if the second consonant was a sonant, i.e. CS̥C.

However, taking this root structure as a point of departure, a possibility of regenerating the alternations of the vowels on both sides of the sonant was existing. These alternations may be labeled bilateral alternations. The presence or absence of semantic connections determined the choice of the secondary CVSC or CSVC form.

Examples of roots with **bilateral alternations** are not rare in Sl. However, it is often impossible to determine strictly whether a given case stems from IE or arose in CS. The only evidence is supplied by other IE languages. If a bilateral alternation is found in a root outside of Sl, its IE origin may be presumed with more certainty. If non-Sl traces of the bilateral alternation cannot be discovered, it was rather a CS innovation; but the possibility of such an alternation being lost at a later period in the other IE languages must not be forgotten.

Keeping these reservations in mind the following examples of bilateral alternations may be deemed IE:

R *dérevo* 'tree' : (*z*)*doróvyj* 'healthy' representing **deru̯-* : *doru̯-*. Their IE counterparts are: Li *dervà* 'pine wood', Le *dar̃va* 'tar', OI *dāru* 'wood', Av *dauru-*, Gr δόρυ, Ir *derucc* 'acorn', AS *teru* 'tar', as opposed to R *drévnij* 'ancient', Cz *dříve* 'sooner', Sn *drȇvi* 'tonight' with their IE correspondences: Li *drẽvė* 'beehive', Le *dreve*, Go *triu* representing **dreu̯-*;

OCS (*po*)*glъtiti* 'swallow', Sk *hltat'*, related to La *glūtiō* 'swallow' as opposed to OR *gъlьkъ* 'pitcher', U *hlek*, related to Le *gulgât* 'belch', OIr *gelid* 'devour', OHG *kela* 'throat' (Examples of this type in which Sl has only # grade forms are less convincing).

In the following examples Balt is the only non-Sl source of our knowledge of bilateral alternations:

R dial *dvóxat'* 'pant' – Li *dvesẽti* 'breathe', *dvasià* 'breath', Le *dvesêt* 'breathe', Gr θεός (< *θϜεσός) 'god', La *bestia* 'animal' (< *d'u̯ēs-), MHG *twâs* ~ *dwâs* 'fool' as opposed to OCS *duxъ* 'breath, spirit' : *dunǫti* 'blow', related to Li *daũsos* 'air' (pl); # grade in OCS *dъxnovenie* 'breath';

R *drébezg* 'shard' : *drob'* 'fraction', related to Li *drebė̃zna* 'splinter' : *drãbanas* 'lump', Le *drapsnas* 'crumb' as opposed to R *derú* 'tear, rip' (1 sg), related to Li *dìrti* 'flay', Le *nuõdara* 'refuse', Av *dar-*, Gr δέρω 'flay', Alb *dërmoj* 'destroy', Cym *darn* 'piece', Go *distairan* 'tear';

R dial *pelēsyj* 'spotted' : U *polóvyj* 'pale, yellow' (*pel- : pol-) related to Li *pelė́ti* 'grow moldy' : *pal̃vas* 'fallow', Le *pele* 'mouse', OI *palitás* 'grey', Gr πελιός 'pale', Alb *plak* 'old man', La *pallidus* 'pale', OHG *falo* 'fallow' as opposed to R *plésen'* 'mold', Li *plẽkti* 'go moldy'.

Finally a few examples of bilateral alternations that could have been Sl innovations:

OCS (*pro*)*zębati* 'sprout' : *zǫbъ* 'tooth', corresponding to Li *žem̃bti* 'cut', Le *zùobs* 'tooth', OI *jámbhas*, Gr γόμφος 'plug', Alb *dhëmb*, OHG *kamb* 'comb', To A *kam* 'tooth' as opposed to R *znobít'* 'feel feverish', Cz dial *znobiti* 'make freeze', Bg dial *znóba*, an illness, with apparently no correspondences in non-Sl languages;

R *xvorát'* 'be ailing' corresponding to Av *χ^vara-* 'wound', OHG *sweran* 'hurt' as opposed to OCz *churavý* 'sick'; lengthened # grade in BgChSl *xyra* 'debility';

R *xvalá* 'praise' corresponding to ON *skvala* 'speak loud', as opposed to R *xulá* 'detraction'; # grade forms are of the type of P *chlubić* 'praise' (< *xulb-);

Sn *svẹ̑pati* 'stagger' corresponding to OI *vápati* 'throw' as opposed to OR *suti* 'strew' (< *soupt-); # grade in OR *s*(ъ)*pu* 'strew' (1 sg), Li *sùpti* 'rock', Le *supata* 'waste matter', OPr *suppis* 'dam', La *supō*.

Chronologically most Sl bilateral alternations must have belonged to the period preceding the rise of new # grade. Later, there arose a tendency toward establishing a connection between # grade and full grade in the order of sounds, as after the split of syllabic sonants into *i* + S and *u* + S groups both forms had a vowel. Roots of the type C*i*SC/C*u*SC were more strongly attached to roots of the type CVSC than CSVC (with V denoting other vowels than *ŭ*, *ĭ*). This is shown by such pairs as R *grom̃* 'thunder' : OCS *grъměti*, R *gremét'* 'to thunder', and not +*gъrměti* or +*žьrměti*. But of course the chronological attribution remains hypothetical: displacement of a vowel within a root brought about by levelings within the root could have occurred at a later period as well.

In many roots the IE bilateral alternation was lost in CS. For example, Sl has (R) *nestí* 'carry' as continuation of IE *nek'-, and no traces of the other form of this root *enk' – as represented by Gr (ἐν)εγκ(εῖν) 'bear' (aor), OIr *ro-icc* 'reach', etc.

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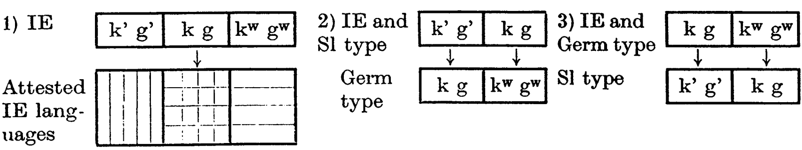
7. DELABIALIZATION OF LABIOVELARS

1. General characterization. 2. Area. 3. Identification of labiovelars. 4. Examples. 5. Conditions and effects. 6. Chronology.

1. Comparative linguistics of Neogrammarian period posited for IE three series of velar stops: palatovelars *k'*, *g'*; velars *k*, *g*; and laviovelars k^w, g^w (also denoted k^u, g^u; $k^{\underset{\frown}{u}}$, $g^{\underset{\frown}{u}}$; q^u, g^u) (Bezzenberger, Osthoff, Brugmann a.o.)

As apparently no single historical IE language revealed the threefold reflexes of the posited IE velars, attempts were made in the later development of linguistic research to deny the simultaneous presence of all three series in any particular IE dialect and to prove that IE had only two series of velars. Some scholars accepted the idea of primordial palatovelars and labiovelars (e.g. Fick, Meillet) or palatovelars and velars (e.g. Kuryłowicz), thus implying that languages like Sl have basically preserved the original situation while languages such as Germ abolished palatalization in palatovelars with, possibly, a subsequent change of IE velars into labiovelars. Other students posited the existence of IE velars and labiovelars (e.g. Bartoli, Georgiev a.o.), thus inferring that languages like Germ have maintained the original distribution while those like Sl palatalized velars and, because of this, were able to abolish labialization in the labiovelars.

Graphically the three solutions may be represented as follows:



Vertical shading characterizes languages of the Sl type, horizontal shading those of the Germ type.

There also were attempts to reconcile the two approaches by suggesting that phonetically IE had three series but phonemically only two were relevant. E.g., Safarewicz proposed that *k*, *g* were opposed to *k'*, *g'* before non-front vowels (*a*, *o*, *u*) while before front vowels (*e*, *i*) *k'*, *g'* were opposed to k^w, g^w. This would make *k*, *g* allophones of k^w, g^w.

The view that IE had, both phonetically and phonemically or only phonemically, two series of velars is favored by the existence of vacillations in a number of roots and words in the modern IE languages: where some IE languages have reflexes of one series of velars others display reflexes of a different series (See 9,4). This may be explained if one assumes redistributions of the original two series in various phonetic environments.

The presence of the three IE velar series could be positively proved only if a language is discovered which has threefold reflexes of these consonants. This was attempted for Alb by Pedersen and Jokl (k^w, g^w but never *k*, *g* are supposed to be reflected in Alb as *s*, *z* before front vowels), for Arm by Pisani, for To by Evangelisti. Although these contentions are still not definitive, for the treatment of Sl it seems preferable to adhere tentatively to the classical theory of three IE velar series. This theory results from direct application of the comparative method and, at least in terms of Sl, there is no fact openly disproving or contradicting it. Furthermore, this theory makes etymological correspondences more clear and precise.

Based on this assumption, the abolition of labialization in proto-Sl velars may be characterized as one more step in the Sl transformation of the IE system of triple consonantal oppositions into a system of pairs. When $k^w > k$ and $g^w > g$ the tripple oppositions of

$$\begin{array}{ccc} & k & \\ k' & & k^w \end{array} \qquad \begin{array}{ccc} & g & \\ g' & & g^w \end{array}$$

became the simple oppositions of *k* vs. *k'* and *g* vs. *g'*.

2. Area. The delabialization of velars like the loss of aspiration in voiced stops was not limited to the proto-Sl dialects of IE alone. It also characterized Balt[1], Indo-Irn, and in a limited manner spread to Alb and Arm.

3. Identification of labiovelars. Since the Sl, Balt, Ind and Irn reflexes of labiovelars are identical with those of the velars one must turn to other IE languages. La and Germ present the best evidence having a labial component in their reflexes of IE labiovelars: k^w yields *qu* in La, *ƕ-* and *-w-* in Go, while $k > c$ in La, *h* in Go. Correspondingly, g^w gives *u* or *gu* in La, *q* in Germ, in contrast to the reflexes of *g*: in La *g*, in Go *k*. Gr normally has $\pi < k^w$ and $\beta < g^w$, but they are replaced by τ, δ respectively before front vowels (ε, η). The situation in Ce is more complex. Ir has $b < g^w$; $p < k^w$ is found in Gaul and Bret.

4. Examples. a) k^w: OCS *pokojь* 'peace' : *počiti* 'relax' – OI *cirás* 'dull, long', La *quiēs* 'rest', Go *ƕeila* 'while';

OCS *pekǫ* 'bake' – Li *kepù* (with metathesis of consonants), Le *cepu*, OI *paktas* 'cooked', Av *pačaiti* 'cook', Gr πεπτός 'cooked', Alb *pjek* 'bake', La *coquō* 'cook', Bret *pibi* 'bake', AS *áfigen* 'fried', To B *papakṣu* 'cooked';

R *Oká*, river-name – La *aqua* 'water', Go *aƕa*.

Further examples: OCS *kolь* 'how (much)', *kolo* 'wheel', *vlьkъ* 'wolf', *kajati sę* 'repent', *veštь* 'thing' (*št* < *$k^w t$), *otъlěkъ* 'rest', *cěna* 'price', *kъto* 'who', *večerъ* 'evening', *čeljadь* 'menials', etc.

[1] OPr nom pl *quai* ~ *quoi* from the interrogative and relative pron *kas* 'who' (as well as the nom sg fem of the same form), cognate of OI *kas*, Go *ƕas* hardly retains IE labiovelar. It results rather from blendings within OPr, although the explanations given hitherto are not very convincing (See J. Endzelin, *Altpreussische Grammatik*, Riga 1944, p. 124).

Cf. reflexes of IE *k* in OCS *kryti* 'cover' – Li *kráuti* 'superimpose', Le *krūtiês* 'intrude', Gr κρύπτω 'hide', Ir *crúach* 'heap of grain', ON *hvaukr* 'heap';

OCS *is-koni* 'from the beginning' – Le *at-kan* 'anew', OI *kanīnas* 'young', Av *kainya* 'girl', Gr καινός 'new', La *re-cēns* 'fresh', Ir *cinim* 'arise'.

b) g^w: OCS *gora* 'mountain' – OPr *garian* 'tree', Li *girià* 'forest', OI *giriḥ* 'mountain', Av *gairi-*, Gr βορέας 'northern wind', Alb *gur* 'rock';

OCS *žena* 'woman' – OPr *genno* (voc), OI *jániḥ* ~ *gnā* 'God's wife', Av *gəna-* ~ *γnā* 'wife', Arm *kin* 'woman', Gr γυνή, Alb *zonjë* 'lady', Ir *ben* 'woman', Go *quino*, To A *śān*, To B *śana*:

OCS *běgati* 'run' – Li *bėgti*, Gr φέβομαι 'flee'.

Further examples: OCS *žiti* 'live', *žrъny* 'millstone', *gryzǫ* 'gnaw', *nagъ* 'nude', RChSl *želěti* 'deplore', R *žába* 'toad', *žídkij* 'liquid', *žrat'* 'devour', *gríva* 'mane', *gasít'* 'extinguish'.

Cf. reflexes of IE *g* in OCS *ǫgъlъ* 'angle' – OI *aŋgam* 'member', Arm *ankiun* 'angle', La *angulus*.

Examples of reflexes of $g^{w'}$, g' are cited in **3, 4**.

In several cases the correspondence of a labial consonant in Sl and a velar in some other IE language(s) or vice versa might indicate an IE labiovelar:

R *slíva* 'plum' – OHG *slêha* ~ *slêwa* 'sloetree', OIr *lī* 'color, shine';

OCS *rěka* 'river' – La *rīvus* 'brook'.

Inasmuch as such instances are isolated and the assumed labiovelar occurs at the end of the root, they may be accounted for by the use of various determinatives. A comprehensive theory may hardly be built on such data.

5. Conditions and effects. If proto-Sl originally had labiovelars (as is assumed here) the circumstances favoring their coalescence with velars are evident.

Phonetically (articulatorily) their articulation was more complex than that of the velars. In order to be maintained, they demanded strong support from the phonemic system. Meanwhile, the consonantal system at this time was in the process of reformation: it tended to increase the part played by the opposition in voicing, and to abolish or decrease other types of oppositions. Graphically this was tantamount to the abolition of triple oppostions, as shown in 7,1. On the other hand, the rapid doubling of the long vocalic phonemes brought about by the rise of opposition in pitch allowed the reduction in the number of consonantal phonemes.

The immediate consequence of the loss of labiovelars in the general economy of the proto-Sl phonemic system was the considerable diminution of the set of back articulations. While Sl inherited at least nine velars and three laryngeals, the number of consonants with back articulation was at this time reduced to four or five. This was a decrease in the system of phonemes, not in the sounds used in speech sequences (because both aspirated velars and labiovelars after becoming regular velars were still articulated in the back of oral cavity). The new subsystem of velars was characterized by oppositions in voicing and palatalization only:

g	*k*	
		(+*k*ʻ ?)
g'	*k'*	

This enhanced the functional load of oppositions in both vowels and front consonants; thus it is possible that a p h o n e t i c tendency arose toward a general

shift to more front articulation. Often in development of languages if two or more changes happen to proceed in the same direction, phonetically, a phonetic tendency arises which may even exceed the requirements of the phonemic system and cause a conflict with the latter.

6. Chronology. There are no direct indications whether labiovelars were lost in proto-Sl before or after the loss of aspiration in voiced stops. Logically, the two changes are unconnected. Those few historians of CS who were interested in establishing the order of changes assumed different sequences: Il'inskij gave the first place to his account of the loss of aspiration, Buzuk and Kořínek of the loss of labialization in velars. But no one of them motivated his order of presentation.

Il'inskij's order was followed in this book for reasons of clarity. The loss of aspiration was a change which encompassed all types of stops: labials, dentals, and velars. In its further development, CS had no more reconstructions involving the entire inventory of its consonants. On the contrary, the loss of labiovelars concerned velars only and initiated a train of changes in the velars specifically, continuing through the whole history of CS (loss of palatovelars, rise of *x*, several subsequent palatalizations of velars). Therefore it seemed advisable to present the loss of labiovelars closer to the chapters which elucidate further shifts in CS velars.

The fact that the loss of labiovelars was connected with further changes in the velars might give a slim margin of greater probability to the assumption that the loss of labiovelars succeeded the loss of aspiration in voiced stops. On the other hand, the possible connection between the fall of laryngeals and the loss of aspiration in voiced stops suggests the relative antiquity of the latter change; it is also possible that in the fall of laryngeals, one may see the beginning of a general trend toward the reduction of variety in back articulation, which in the long run contributed to the loss of labiovelars.

In terms of absolute chronology the two changes whatever their order could not have been far apart. This may be deduced from the similarity in the areas they covered (but no complete overlap: the main difference is that OI participated in the elimination of labiovelars but not in loss of aspiration). Further changes, at least in their final materialization, covered smaller areas, thus pointing to the gradual severance of the original ties between CS and its sister dialects, and the gradual extinction of IE tendencies in CS.

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8. SPLIT OF *S* INTO *S* AND *X*

1. General remarks. 2. Area. 3. Identification of CS *x*. 4. Examples. 5. Exceptions in the change of *s* into *x*. 6. Extension of *x* conditioned morphologically. 7. Affective *x*. 8. Initial *x*. 9. Conditions and effects. 10. Chronology and historical background.

1. The loss of aspirated velars and labiovelars, and possibly of laryngeals, resulted in a considerable decrease of back articulated consonants in CS. Only two palatovelar stops, *k'* and *g'*, and two velar stops, *k* and *g*, remained if *k'* is not counted, possibly pronounced at that time as *x* (See 3,5), a sound which was on the borderline between the regular phonemic system and the subsystem of affective variants. With such vacancies in the set of back articulated consonants, a possibility opened for new back consonants to fill them. In fact, a new phoneme of this type developed in CS, the velar spirant *x*. It arose from the split of *s*, the only spirant CS inherited from IE. *s* was preserved in most positions intact, but after *k*, *r*, *u*, *i* if not followed by a stop, it changed into *x* (Pedersen's rule). Being conditioned by its phonetic environment *x* was originally but an allophone of *s*; however, it became a full-fledged phoneme due partly to its spread into other positions by morphological analogy (See sections 6 and 8), but mainly because *x* which arose after *k* absorbed this *k*, thus *ks* > *kx* > *x*. This *x* < *kx* was not motivated synchronically and thereby acquired phonemic status.

The above formula of *s* > *x* which deals with the final result of the change that affected CS *s* contains two inherent difficulties. First, articulatorily, the difference between *s* and *x* is so great that one cannot assume the direct transition of *s* into *x*: some transitional links must have existed. Second, it is unclear why exactly *k*, *r*, *u*, *i*, four sounds articulated quite differently and having quite different functions brought about the same mutation of *s*.

The first difficulty is usually obviated by assuming *š* as an intermediary link between *s* and *x*: *s* > *š* and later *š* > *x*. A view was even expressed that this *š* still exists before front vowels and was driven to become *x* only before back vowels (Meillet). According to this viewpoint *š* in, say, R *úši* 'ears' is older than *x* in *úxo*, sg. both going back to IE *s* (Li *ausìs*). This is highly improbable: further history of CS knows a series of palatalizations in velars (Chapters 17,21) but no changes of palatals into velars. Moreover, the very idea of *š* in CS of the period under consideration, though admissible phonetically, is rather implausible phonemically. The consonantal system at that time was comprised of four groups: labials, dentals, palatovelars, and velars, but no palatal (hushing) consonants. A single hushing spirant would have had no counterparts in the system. See further details in 8,9.

The observation concerning the heterogeneity of the sounds which caused the alteration *s* > *x* is correct. A high-front vowel *i*, a high-back vowel *u*, a vibrant *r*, and a velar *k* hardly could have exerted the same influence on the following spirant. It is expedient to treat the change of *s* after *k* separately. This was a case of simple assimilation, eventually, of a reciprocal assimilation: *s* yielded *x* after *k*, and *k* assimilated itself fully to the following *x* so that finally *x* alone continued the cluster *ks*:

$$ks > kx > (xx) > x.$$

E.g., 1 sg aor (sigmatic) of the verb (OCS) *rek-ǫ* 'say' formed with the tense characteristic *s*, **rēk-s-om* appears in OCS as *rěxъ*. The absolute chronology of the sequence of these changes is unknown. It is possible that all the stages of the supposed evolution followed one another very quickly or even that the middle stages are only logical and never really existed. But it is also possible that the cluster *kx* was used for a long time and underwent simplification much later, when CS simplified quite a few consonantal clusters. The coalescence of *x* < *kx* and *x* < *k'*, as well as some facts connected with development of palatovelars (See 9,5) bespeak rather the first possibility.

In the position after *r*, *u*, *i*, articulatorily, one must consider the raising of the *s* articulation connected with the retraction of the top of the tongue curve. If it is assumed that *ks* and *k'* changed into *x* at an early period it is possible that this *x* operated as a kind of catalyst which contributed to the transformation of the various allophones of *s*,– after *i* (raised), after *u* (raised and retracted), and after *r* (raised and retracted to a different degree) – into a new common sound, *x*, a new CS phoneme.

2. Area. Like the other early CS phonetic changes, the alteration *s* > *x* was not limited to Sl alone. IE *s* underwent similar, though not identical changes in Indo-Irn and in a part of Balt. The similarity with Indo-Irn is particularly striking in that IE *s* was articulatorily moved back after the same heterogeneous sounds *k*, *r*, *u*, *i*[1]. In OI it became a retroflex (cacuminal) *ṣ*, in Av *š*. The difference in the final results – Indo-Irn did not develop the *x* stage – is irrelevant because, as shown, some intermediary link between *s* and *x* must also be assumed for CS even if it was only extraphonemic at first.

However, despite all the resemblance, this could not have been a common Indo-Irn-Sl development as shown by certain essential divergent details in the two linguistic groups. In Indo-Irn the change *s* > *ṣ* was part of a general trend to make dentals retroflex after *k*, *r*, *u*, *i*. In this position *t*, *d*, *t'*, *d'*, *n* > *ṭ*, *ḍ*, *ṭ'*, *ḍ'*, *ṇ*. Sl does not attest any trace of such a change. The presence of a stop following *s* does not prevent this change in, say, OI as it does in Sl, e.g OR *pьxati* ~ *pixati* 'stamp' (< **pisā-* ~ *peisā-*) but **pěstъ* 'stamper' (< **poist-*) vs. not only Av *pišant-* 'crushing' but also OI *piṣṭás* 'ground'. A palatovelar *k'* preceding *s* did not cause it to change into *x* in Sl, but in OI and particularly

[1] Although not in all the Irn languages and dialects. Cf. for example Georgiev, *Sl* 28, p. 8.

in OIrn it did. Hence, La *axis* (< **ak'*s-) has as its counterpart in OI *ákṣa* 'axle', Av *aša-* but R *os'*[2]; La *dexter* 'right', OI *dákṣiṇas*, but OCS *desnъ* (See 9,5). Finally, in Indo-Irn not only the original IE *r* but also *r* which developed locally from *l* affected *s*, transforming the latter into *ṣ*. This indicates that the Indo-Irn *s* changed into *ṣ* probably after the change of *l* into *r*, a change not shared by Sl, which indicates that it occurred after the separation of the two language groups.

All these differences in the scope of the change[3] and its chronology prove that the Sl treatment of *s* changing into *x* was not a part and parcel of the Indo-Irn development, while an undeniable similarity in the two developments testifies to a common point of departure still within the framework of predivisional IE, and shows a later Irn impact on CS (See 35,4).

There is less of a resemblance between Sl and Balt. In Li *s* > *š* regularly after *k*, *r* but not after *u*, *i*; Le and OPr do not manifest any changes of *s* after any of the four sounds involved. In general, Le and OPr *š* is of a later origin, mainly stemming from consonantal clusters containing *j*. Theoretically, one may assume that the two languages originally had *š* and later lost it, but this would remain sheer speculation unconfirmed by facts. Thus, OR *sъršenь* (R *šeršen'*) 'hornet'[4] has its precise counterpart in Li *širšuõ*, but Le has *sìrsenis*, OPr *sirsilis*. A few Li words in which *š* occurs after *i* (*maĩšas* 'bag', *riẽšutas* 'nut') and *u* (*krušà* 'hail', *rušùs* 'active', *vẽtušas* 'old'), corresponding with *x* in Sl (R *mex* 'bellows', *oréx* 'nut', *kroxá* 'crumb', *vétxij* 'decrepit', P *ruch* 'movement'), are quite exceptional. In most of these cases Li probably derives its *š* from *sk'* : IE *k'* changed into *š* regularly in Li and then, in the cluster *s* + *š*, *s* assimilated to *š*. Thus, the similarity to Sl is deceptive. For examples of regular correspondences of Sl *x* – Li *s* after *u*, *i*, see section 4.

3. Identification of CS *x*. CS *x* is rather well preserved in the modern Sl languages as *x* before non-front vowels and in final position except for M which tends to drop *x* or replace it with *f* or *v* (The same tendency is evident in SP and in a large number of SC dialects). Before front vowels *x* later changed into *š* which is preserved by all Sl languages except LS and Pb where every *š* changed into *s* (as well as in P dialects with *mazurzenie*). For cases in which CS *x* is represented in S and ESl as *s* (as the result of the second and third palatalizations), see 21,1 and 23,2.

In non-Sl IE languages Sl *x* has as its correspondences regular reflexes of IE *s* discussed in 2,5g, but OI has *ṣ* and Av *š* after *k*, *r*, *u*, *i*, Li has *š* after *k*, *r*, and Arm has *š* after *k* (thus also revealing a partial resemblance in the change of IE *s* typical of Sl, OI, Irn, and Li).

[2] *k'* > *s* in CS (See 9,1); *s* + *s* probably merged into *s* (But see 9,5).

[3] There are more differences in details concerning the development of *ṣ*. To mention two more briefly: *ṣ* in OI did not arise before *r*; on the other hand, retroflection encompassed, in the appropriate positions, not only *s* but also its voiced counterpart *z*, becoming *ẓ* (Av *ž*), a change unknown to Sl.

[4] *š* after *r* is from *x*, due to the later palatalization of any *x* before front vowels (See 17,1).

4. Examples. In the position after *k*: R *lox-mot'ja* 'rags', P *lachy* (< **lāks-*) – Gr λακίς 'rag, shred', La *lacer* 'torn in pieces';

R *pax* 'groin' – OI *pakṣás* 'shoulder, side';

OCS *mošьna* 'wallet, pouch' (< **maks-inā*) – Li *makštìs* 'sheath', Le *maks*, OPr *dauti-max* 'gum', OHG *mago* 'stomach';

P *chyba* 'flaw' – OI *kṣúbhyati* 'totter', Av *χšaob-* 'get excited'.

Further examples: R *lixój* 'dashing', (*u*)*šibít'* 'hit', *drjáxlyj* 'decrepit', *strax* 'fear', *šatát'* 'sway', *širókij* 'wide', *búxat'* 'thump', *xájat'* 'blame', *víšnja* 'cherry', *šest'* 'six', possibly *xranít'* 'guard', *ševelít'* 'stir', *šip* 'thorn'; Sn *króhati* 'grunt'; ChSl *krъšnja* 'fist', possibly Bg *šut* 'hornless', P *grzechotać* 'rattle', etc. The forms of 1 sg aor in *-x* for verbs whose stems end in *-k* provide obvious examples within Sl itself, cf. *tekǫ* 'run', *sěkǫ* 'chop' : *těxъ*, *séxъ* in OCS.

In the position after *r*: P *parch* 'itch, scabies' – Le *pàrsla* 'flake', OI *pŕ̥ṣant-* 'speckled', ON *fors* 'waterfall';

R *vórox* 'pile' (< **vorx-*) – Le *vârsms* 'layer of grain for threshing', La *verrō* (< **versō*) 'drag';

R *verx* 'top' – Li *viršùs*, Le *vìrsus*, OI *várṣma* 'height, top', La *verrūca* 'eminence', Ir *ferr* 'better'.

Further examples: R *goróx* 'peas', *pórox* 'powder', *šéršen'* 'hornet', *šeršávyj* 'rugged', U *bórošno* 'meal', ChSl *vrъxǫ* : *vrěšti* 'thresh', etc.

In the position after *u*: SC *pȕha* 'pustule' – Li *pùsti* 'swell', Le *pusks* 'bunch', OI *púṣyati* 'grow', La *pustula* 'pustule';

OR *blъxa* 'flea' – Li *blusà*, Le *blusa*, OI *plúṣi-*, Afghan *vraža* (< **brušā*), Gr ψύλλα (< **bʻlus-*);

R *úxo* 'ear' – Li *ausìs*, Le *àuss*, OPr *āusins* (acc pl), Gr οὖς, Alb *veš*, La *auris*, Ir *ó*, Go *ausō*.

Further examples: R *kroxá* 'crumb', *vétxij* 'decrepit', *snoxá* 'daughter-in-law', *brjúxo* 'belly', *múxa* 'fly', *myš'* 'mouse', *mox* 'moss' (< *mъxъ*), *uxá* 'fish soup', *voš'* 'louse' (< *vъšь*), *dux* 'spirit', *pázuxa* 'bosom', *slux* 'hearing', *suxój* 'dry', *tušít'* 'put out (fire)', *drýxat'* 'sleep', *njúxat'* 'smell', *kiškà* 'gut', U *čerémxa* (< *-mъxa*) 'bird-cherry', Cz *pýcha* 'arrogance', *ruch* 'movement', etc.

In the position after *i*: R *véxa* 'stake, landmark' (*e* < *ě* < *oi*) – OI *vēṣkás* 'noose', OHG *wisk* 'wisp of straw';

Cz *lícha* 'valley' – Li *lýsia* 'bed', OPr *lyso*, OHG *wagan-leisa* 'carriage rut';

R *tíxij* 'still' – Li *teisùs* 'just', Le *tìesa* 'truth', OPr *teisi* 'honor'.

Further examples: R *oréx* 'nut', *mex* 'fur, bellows', *pšenó* 'millet' (< *pьšeno*), *trēx* 'three' (< *trьxъ*, loc pl), *ol'xá* 'aldertree', *ves'* 'all' (< **vix-*), *vixr'* 'whirlwind', *spes'* 'arrogance', *čixát'* 'sneeze', etc.

The following examples show the preservation of *s* if followed by a stop:

R *túsklyj* 'dim' – OS *thiustri* 'dark' vs. R *túxnut'* 'go out (of light)' – OPr *tusnan* 'quiet', OI *túṣyati* 'is satisfied';

P *pysk* 'mouth' vs. P *pycha* 'arrogance' (The same root as in SC *pȕha* 'pustule', see above);

R *perst'* 'dust' vs. *pérxot'* 'dandruff', *pórox* 'powder' – cf. Le *pàrsla* 'flake of snow', Hi *papparš-* 'speckle'.

Further examples: R *trost'* 'reed' (< *trъstь*) vs. R *truxá* 'dust', OCS *prьstъ* 'finger', OCS *ristati* 'run', R *šerst'* 'wool' (OR *sьrstь*) vs. R *šeršávyj* 'rugged', Sn *sŕhek* 'rough', R *korósta* 'scab', *pórskat'* 'puff and blow', R *ustá* 'mouth', OCS *isto* 'kidney', possibly *strast'* 'passion' vs. *strax* 'fear'.

About the cluster *sk'* see 9,5.

5. Exceptions in the change of *s* into *x*. The change *s* > *x* after *k, r, u, i* if not followed by a stop was very consistent in CS. Even in the modern Sl languages, if one disregards words with obscure etymologies used in one Sl language only (like R *krýsa* 'rat', *mys* 'cape') deviations with *s* instead of the expected *x* are rare, and as a

rule result from CS changes of a later period than the change *s* > *x*. They may be classified in several groups and illustrated by following examples.

a) In early CS, *s* was preceded by another consonant which prevented the action of the foregoing *k, r, u, i*. In the sweeping simplifications of consonantal clusters typical of somewhat later CS (See chapter 13), this consonant was lost; but at that time the change of *s* into *x* no longer operated so that *s* remained intact. Such cases are found in following clusters:

ds: R *bes* 'devil' < **boids*-. Cf. La *foedus* 'abominable';

R *rys*' 'lynx' < **rūds*. The root is the same (with vowel alternation) as in R *rudá* 'ore', P *rudy* 'red'.

ps and *bs*: OCS *kljusę* 'draught-animal' < **kleups*-. Cf. Li *klùpti* 'stumble', Go *hlaupan* 'run';

U *kolysáty* 'rock', P *kolysać*, Cz *kolisati*. Supposedly *s* was preceded by *b*, cf. R *kolybél*' 'cradle'. However, there are parallel forms with *x*: R *kolyxát*' 'rock', Br *kalyxác*' (but *kalýska* 'cradle').

ts: Cz *kyslý* 'sour' < **kūts*-. Cf. OI *kváthati* 'boil', Go *hvaþō* 'foam'.

b) In other instances a consonant, in this case a stop, lost at a later period originally followed *s*, precluding its change into *x*. Examples of *s* originally followed by *k* are fairly well represented:

R *tésnyj* 'narrow'. Cf. R *tískat*' 'press';

OCS *rěsnota* 'truth', Sn *rę̂s* 'true' < **roisk*-. Cf. Li *raiškùs* 'clear';

R *jásnyj* 'clear' < **oisk*-. Cf. Li *áiškus* 'clear';

R *mesít*' 'knead' < **moiksk*'-. Cf Gr μίσγω (< **mig-skō*), La *misceō* 'mix'.

c) In roots with initial *s*-, if the root-final *s* altered through *x* into *š*, this *š* could have been assimilated to the initial *s*. This may be supposed for ChSl *sysati* 'whistle' (R *súslik* 'gopher', Bg *sə́skam* 'hiss') – cf. OHG *sûsôn* 'whistle'; also R *susál*' 'gold leaf' < **sušal*- < **suxēl*-.

d) In words in which *s* is a suffix, rather than part of the root, it is possible that the suffix was added to the root after the change *s* > *x* ceased operating. This might apply to R *gnúsnyj* 'infamous'. It has the same root as Gr χναύω 'scratch', ON *gnúa* 'rub'; *s* did not belong to the root.

e) Loan words of a later date naturally do not have *x* from *s*. E. g. R *vors* 'nap, pile' is supposedly borrowed from Irn, cf. Av *varəsa*- 'hair';

SChSl *trъsa* 'bristle', SC *tȓs* 'vine, reed', U *týrsa* 'feathergrass', which along with Gr θύρσος 'thyrsus', goes back to some language of Asia Minor and/or Caucasus.

The remaining instances which are difficult to explain are R *ovës* 'oats' (< *ovьsъ*) possibly going back to **avigs*- and P *siepać* 'tear, pull' if it is a cognate of OI *kṣipáti* 'throw'. The former also shows irregularities in its final consonant in other IE languages; the etymology of the latter is uncertain.

6. Extension of *x* conditioned morphologically. Not only was the change of *s* into *x* consistent in CS, but it far exceeded its original limits. The consonant *x* proved to possess a special power to expand, which seems to have manifested itself throughout the whole CS period and even partly into the modern Sl languages. It is striking that in all the morphological categories where *s* and *x* occurred concurrently for a certain time and then one form was generalized, *x* was favored. Three inflectional categories must be cited in this context.

a) Loc pl. Its ending as reconstructed for IE was -*su*. According to the phonetic law one expects -*xъ* in *o*-stems (-*oi* + *su*), *u*-stems (-*u* + *su*), and *i*-stems (-*i* + *su*), but -*sъ* in *ā*-stems (-*ā* + *su*) and in consonantal stems, except for *r*-stems (-C + *su*). But instead one finds -*xъ* in the oldest available Sl records in every type of subst and adj, i.e. (OCS) not only *raběxъ* 'slave', *synъxъ* 'son',

pǫtьxъ 'road' but also *ženaxъ* 'woman' and *imenьxъ* 'name'. The only form in which the ending *-s* survived is the loc pl of two personal pron *nasъ* 'we', *vasъ* 'you'.

The spread of *x* in the loc pl endings was obviously a prolonged process and there is no reason to assume that *x* prevailed immediately or soon after it reasserted itself as a phoneme in CS. This may be seen from the fact that the early records of Sl have a few scattered examples of individual consonantal stems still using the ending *-s*(*ъ*), although only in petrified expressions (place-names): *Lessaz* (**Lěšasъ*, 1177, loc pl from **Lěšane*), a place-name on the territory of Western Lechitic tribes, near present-day Greifswald, Germany; OCz *Liubichas* (**Lubčas*, 1073, loc pl from *Lubčane*), *Doleass* (**Doljas*, 1057, loc pl from *Doljane*, now *Dolánky*), etc. (More examples in 22,7).

b) 1 sg aor and impf. In this case the "ending" *-sъ* is still well attested in 14 OCS verbs (*ęsъ* 'take', *klęsъ* 'curse', *bljusъ* 'watch', *grěsъ* 'bury', etc.), but otherwise *x* occurs not only in the position after CS *k*, *r*, *u*, *i*, as in *rěxъ* 'say', *braxъ* 'fight' (< **bors-*), *čuxъ* 'feel', *prosixъ* 'request' but also in all other positions, cf. *znaxъ* 'know', *nesoxъ* 'carry', etc. In 1 sg impf only *x* is used, being transferred from the aor, e.g. OCS *nesěaxъ*.

c) 2 sg pres. In this form, *s* is preserved only in a few athematic verbs: OCS *ěsi* 'eat', *dasi* 'give', *věsi* 'know', *esi* 'be'. All other verbs have systematically *-ši* (*-šь*) with *š* < *x* (before a front vowel) spread from verbs in *-i-*, the only group where it had arisen phonetically.

7. Affective *x*. Not only in word inflection but also in word derivation there was a considerable expansion of *x* into positions where it is not expected phonetically. The suffix *x* occurs in such positions in many words, some undoubtedly CS since they are used in all or many Sl languages: OCS *grěxъ* 'sin' as based on *grěti* 'warm'; *spěxъ* 'hurry' as based on *spěti* 'advance'; R (*pere*)*polóx* 'commotion' (from **-pol-x-*; cf. Gr πάλλω 'shake', πόλεμος 'battle, war', Go *usfilma* 'frightened'); Cz *plch* 'dormouse' (< **pil-x-*; cf. Li *pelė̃* 'mouse'). Phonetically, *x* is unmotivated in the suffixes *-ox-*, *-ex-*, e.g. R *máčexa* 'stepmother', SC *trȍha* 'crumb' (if to R *terét'*, *tru* 'rub'), R *kopošít'sja* 'potter about' (cf. *kopát'* 'dig'), etc.

Examination of these examples easily reveals that the majority of cases belong to the affective vocabulary. Most of these words connote aversion, disapproval or, the opposite reaction, pleasure. In animal names (like *plch*) this could have been connected with taboo word formation. This affective nature, an emotional coloring of *x*, was the primary cause of the spread of *x* as a suffix in Sl. This character of *x* is still evident in many modern Sl languages. E.g. in modern standard R in the list of affective suffixes (as presented in the Russian grammar of the Academy of Sciences of the U.S.S.R.), one finds four suffixes containing *k*, three with *g*, three with *n*, one with *s*, one with *l* but five with *x*/*š*: *-yš*, *-ënyš*, *-xa*, *-ox*(*a*), *-ux*(*a*). Cf. such formations as Cz *sychravý* 'damp', an emotional variant of *syrový*, LS *znamuško* 'birth mark', etc. In those Sl languages which have no voiced counterpart to *x*, its isolated

position in the language system could contribute to its affectivity: phonemically isolated sounds may easily take over the function of affective connotation. This, however, is not the only nor the main reason for the special affective function of *x* in Sl.

The affectivity of *x* as a phoneme in all probability stems from earliest CS and even IE, viz. from the special functions of IE dial *k*' which introduced the first *x* in Sl in its phonetic development (See 3,5). The appearance of the new *x* in Sl, from *s*, did not destroy the "emotional spell" of the sound. On the contrary, the new *x* in many cases absorbed its affective quality.

A special feature of the suffix *x* used outside its original phonetic limits, is its occurrence after a truncated root (in terms of Mo Sl). That *x* apparently replaces the final consonant of the root. When it is used instead of *s*, some unmotivated alternation *s* : *x* seems to be operative at the end of the root: R *volosátyj* 'hairy' and *voloxátyj*, *trjaxnút'* 'shake' : *trjastí*, P (substandard) *piach* 'sand' : *piasek*, *decha* 'board' : *deska*, SC *próha* : *prȍso* 'millet'. But a similar displacement occurs with other consonants, e.g.:

j : *x*: R *báxar'* 'chatterbox', Cz *báchora* 'chat', Sn *báhati* 'brag', SC *bȁhoriti* 'practice magic' vs. R *bájat'* 'talk'; R *maxát'* 'wave', Br *maxác'*, U *maxáty*, P, US *machać*, LS *machaś*, Sk *máchat'*, Cz *máchati*, Sn, SC *máhati*, Bg *máxam* vs. R *májat*; P *czuch* 'scent', Cz *čich*, Sn *čûhati* 'feel' vs. R *čújat'* 'sense';

k : *x*: R *brexát'* 'yelp', U *brexáty* 'lie', P *brzechać* 'bark', Cz *břechati* 'yelp', Sn *brẹ́hati* 'pant', M *breva*, Bg *bréxam* vs. SC *brèktati* 'puff', OCz *břeče* 'said', Le *brèkt* 'cry'; R *gróxot* 'bang' vs. Li *grekšėti* 'creak'; R *pleš'* 'bald patch' vs. Li *plìkas* 'bald'; Cz (substandard) *ucha* : *učitelka* 'teacher'; possibly OP *Mieszko*, king's name, if from *Mieczysław*;

r, *l*, *n* : *x*: R *paxát'* 'plough', Cz *pachati* 'commit' vs. *parati* 'tear'; R *romáška* 'camomile' vs. P *roman(ek)*, Sn *rmân* ~ *román* 'milfoil' (< **rōmāna*); R *goršók* 'pot', U *hórščyk* vs. R *gorn* 'hearth'; Ch *hoch* 'boy' to *hol-* 'unshaven'. Also *čex* 'Czech' if derived from (OCS) *čeljadь* 'menials', cf. Sn *čèh* 'lad'.

t, *d* : *x*: OCS *kokošь* 'chicken' vs. *kokotъ* 'rooster'; R *proréxa* 'rent, slit' vs. *rédkij* 'flimsy'; R *prjáxa* 'spinner' vs. *prjadú* 'spin'; *sváxa* 'matchmaker' vs. *svat*; *podvóx* 'dirty trick' vs. *podvodít'* 'let down'; *nerjáxa* 'sloven' vs. *rjad* 'order'; *kóška* 'cat' vs. *kot* 'tomcat'; P, Cz *brach* 'brother' vs. *brat(r)*; Cz *kmoch* 'godfather' vs. *kmotr*. Possibly OR *ugošiti* 'arrange' if based on *ugot(ov)iti* 'prepare'.

z : *x*: R *čáxnut'* 'wither, pine' vs. **čaznǫti* 'disappear'; P *ogrych* 'gnawed end' vs. *ogryzek*;

b : *x*: R *xoróšij* 'good' if based on R (dial and arch) *xoróbryj* 'bold'.

There were several factors which enabled "truncated" roots to take *x* apparently instead of their usual final consonants. One case involved the change in the root length as a result of a morphological redistribution (metanalysis). E.g. in the form *kamy*, gen sg *kamene* (OCS) the root *kam-* took suffixes. Hence, a form like R *kám-ešek* (or *kám-ušek*) arose normally. When the form *kamy* was lost and replaced by *kámen'* the relationship *kamen'* : *kamešek* was perceived as the addition of a suffix to a truncated root. This relationship could have been extended. Hence, e.g., R *barán* 'ram' : *barášek* 'lamb', etc. In certain cases *x* could have originally been added to one of several forms of a root (stem) but appears to cause truncation if compared to another longer form of the root. E.g., R *čúxat'* which seems to be based on the truncated form of R *čújat'*, as

presented above, may be compared with *čú-ti* 'sense'. Another case of a "normal" suffix being used after the root, is Sl **jaxati* 'go, ride' compared with Li *jóti* 'ride' (but not if compared with R *édu*, 1 sg, *ezdá* 'driving', etc.).

Another procedure was based on the deduction of *x* from *š*, its alternant after the first palatalization of velars, even in cases in which *š* did not stem from *x* but from *s* + *j* (See 14,3). E.g. Cz *plochý* 'flat' which seems to be based on the truncation of the root represented in R *plóskij* 'flat', could have been a back derivation from forms with *šč* (< *sk*), i.e. of the type *plošč-* (Cf. R *plóščad'* 'square') or simplified into *ploš-* ~ *plaš-* (Cf. R *pláška* 'log of wood').

But whatever the technical procedures causing *x* in words which had no phonetic prerequisite for it, the ultimate reason for such expansion must still be sought in its affective characteristics.

8. Initial *x*. Since *x* was conditioned by a preceding sound, one would expect it never to appear in word-initial position, except for several dubious cases of *k'*- (See 3,5) and a few words beginning in *ks*- (See 8,4). This is not the case, however, for Sl has a considerable number of words commencing in *x*.

In certain cases *x*- may be explained by the influence of prefixes ending in *r*, *u*, *i* (**per*-, *pri*-, *u*-), particularly in verbs. First, the form with *x*- was used after these prefixes, then it could have been generalized after all prefixes, and finally *x* spread even to the prefixless form of the word in question. This was true of the root *xod*- 'go' (R *xodít'*, etc.) related to Gr ὁδός 'road' and going back to IE **sed*-. The form with *s*- is preserved in the words denoting 'sit', e.g. SC *sèdeti*. This redistribution of *s*- and *x*- forms eliminated an otherwise imminent homonymy. If the root of (R) *xvalít'* 'praise' is the same as in the reflexive pron **sve*- (R *svoj*) as surmised by Vey, this would be another instance of *s*- and *x*- forms used for differentiation of meaning. No such a differentiation is involved in the R doublets *xmúryj* 'dark' ~ *smúryj*; but it is probably not just accidental that the verb *xmúrit'* 'frown, gloom' is attested with *x*- only: as prefixes are used in verbal forms that is where the *x*-forms more easily crowded out the *s*-forms.

It is less probable that first components of compound words could have exerted the same influence as prefixes. The assumption that (R) *xromój* 'lame' (OI *srāmás*) developed its *x*- under the influence of a compound of the type **nogou-srom*- where *u* preceded *s* (R *nogá* 'foot') is hardly convincing.

The presence of two parallel forms in certain roots, with *x*- and with *s*-, unmotivated after the phonetic conditions for *x* became obscure probably continued for a long time. Hence, doublets were also introduced into some roots which hardly took prefixes ending in *r*, *u*, *i*. Such doublets still exist in the Mo Sl languages, e.g. R *svist(át')* 'whistle', U *svyst*, P *świst*, Cz *svist*, Sn *svîsk* 'hiss' vs. R dial *xvistat'* 'whistle', U *xvýs'katy* 'whip', P *chwist* 'whistle', Sk *chvísťať*, Cz *chvístati*, SC *fȉsnuti* 'whip'; with *x*- established in verbs and *s*- predominant in subst: R *xlópat'* 'clap, bang', U *xlópaty*, Cz *chlopiti* 'close', Sn *hlópati* 'snap', Bg *xlópam* 'knock' vs. R dial *slopéc* 'trap for small animals', U dial *slopéc'*, P *slopiec*, Sk, Cz *slopec* ~ *chlopec* (Cf. Engl *slap*). In certain other words Sl has

only *x*-, and *s*- is attested only by data from other IE languages, e.g. RChSl *xvějatisja* 'move, stir', P *chwiać się* 'totter', LS *chwijaś*, Sk *chvieť sa* 'tremble', Cz *chvíti* 'shake' vs. Li *svajóti* 'dream', Cym *chwýf* 'movement', AS *swima* 'dizziness', Eng *sway*. This is possibly also true of R *xljab'* 'abyss' if it is akin to MHG *slamp* 'banquet', Eng. *slump*; of R (*u*)*xmyljáť'sja* 'grin' if it is a cognate of MHG *smielen*'smile'; of P *chować* 'hide' if related to Li *saugùs* 'careful', etc.

Along with the influence exerted by the vacillation in the use of initial *s* or *x* originally depending on prefixes ending in *r*, *u*, *i*, the affective connotations of *x* must also have played some role in the words of this type. This factor was crucial in those words in which *x*- parallelled or replaced *k*-. Again, as in the case of the fluctuation *x*- ~ *s*-, there are instances of both variants being attested in Sl and cases in which *k*- may be established only on the evidence of other IE languages. Examples of the first type are: R *xlópoty* 'trouble, fuss' vs. Br *klópat*, U *klópit*, Cz *kłopot* 'hurry', Sn *klopòt* 'clattering', SC *klopòtati* 'sound', OCS *klopotъ* 'noise', etc.; P *kiełzać* 'curb' ~ *chełzać*; R, U *xoxól* 'crest', Br *xaxól*, P, LS, US *chochoł*, Sk, Cz *chochol* vs. Sk *kochol* (against Le *cekulis* 'plait, tuft'); R *xnýkat'* 'whimper' vs. P *knychać*, Cz *knikati*. Also, R *xáxal'* 'fop', U *xóxa* 'coquette', OCz *chochánie* 'making love' if based on **kox*- (As in P *kochać* 'love'). Variations of this type are also reported in NP place-names, as *Charcice* ~ *Karczyce*, *Charwatynia* ~ *Karwatyno*, *Chorab* ~ *Korab*, *Chowanowo* ~ *Kowanowo*. In other cases the evidence of non-Sl languages leads to IE *k*- (or *k'*): R *xolst* 'canvas' if cognate of MHG *hulst* 'cover', R *xomút* 'horse's collar' if cognate of Germ **hama*-, R *xort* 'greyhound', P *chart* if cognate of Germ *hruþian*- (AS *ryđđa* 'large hound'), R *xóbot* 'trunk' if cognate of Gr κωφός 'blunt, dull'.

Another group of Sl words with *x*- have *sk*- as its counterpart in other IE languages. One of two procedures may be assumed in these cases: either the cluster underwent metathesis to *ks*- which then developed phonetically into *x*-; or *s*- was treated as *s* mobile (See 15,8) and dropped with the subsequent treatment of *k*- as in the words examined in the above paragraph. Both cases involve affective variants: the change *sk*- > *x* - was by no means universal, as is obvious from many Sl words traceable to CS and beginning in *sk*-. The following examples of *x* from *sk*-may be cited: OCS *xrabrъ* 'martial', U *xoróbryj* 'brave', P, LS *chrobry*, US *chrobły*, Cz *chrabrý*, Sn *hráber*, SC *hrábar*, Bg *xrábər* – Le *skar̂bs* 'sharp, strong', ON *skarpr* 'sharp'; RChSl *xlǫdъ* 'rod', P *chlęd* 'stalk', Cz *chloud* 'stick', Sn *hlọ́d* 'beam', SC Čak *hlúd* 'rod' – Li *sklañdas* 'pale'; R *xrúpkij* 'fragile', P *chrupać* 'creak', SC *hrúpati* 'grunt' – Li *skriupsėti* 'creak'. Other possible examples could be R *xvórost* 'brushwood', *xvója* 'needles', *xrust* 'crunch', *xólit'* 'tend', *xorómy* 'mansion', etc.

In the above cited examples IE correspondences are limited most often to one non-Sl language. This is not accidental: affective vocabulary changes and disappears more quickly than most other types of words; etymologizing in this realm is uncertain. Therefore, it is no wonder that quite a few words in *x*- have no correspondences outside Sl and thus no etymologies at all, e.g. R *xoroxórit'-sja* 'brag'; *xrebét* 'spine', Sn *hríb* 'hill'; R *xolóp* 'serf'; *xolostój* 'unmarried'; U

xmyz 'brushwood'; R *šélest* 'rustle'; *xirét'* 'grow sickly'; *xvatát'* 'grab'; *xlebát'* 'gulp'; *xlestát'* 'lash'; *xlópok* 'cotton', etc.

In certain cases *x*-may go back to Irn (where *s*- > *h*- regularly), testifying to a Sl borrowing. It has been asserted that R *xvóryj* 'ailing' (and *xirét'* 'grow sickly') as well as *xromój* 'lame' may have been Irn loan words (Av *χᵛara-* 'wound', OI *srāmás* 'lame'). U *Xoról*, river-name, may be compared with OPers *Haraiva*, river-name (IE **ser-* 'flow'). These correspondences are difficult to verify but are not to be ruled out completely (On borrowings from Germ see 8,10).

Thus, the sources of the initial *x*- in Sl are:

1. IE *k'*	affective
2. IE *ks*	not necessarily affective
3. IE *s*- in roots that may have had prefixes ending in *r*, *u*, *i*	not necessarily affective, often with semantic differentiation
4. IE *s*- in prefixless words	affective
5. IE *k*-	affective
6. IE *sk*-	affective
7. *x*, *h* in loan words	not necessarily affective.

9. Conditions and effects. The rise and spread of *x* in Sl essentially involved an interplay between the basic phonemic system of the language and the marginal subsystem of phonemes used in the affective vocabulary. The basic phonemic system contained vacancies in its spirant series because it possessed only one spirant, a dental:

$$\begin{array}{cccc} p-b & t-d & k'-g' & k-g \\ & s & & \end{array}$$

The affective subsystem developed a velar spirant *x* (< *k'*) which influenced the primary phonemic system. Balt, lacking this *x*, shows what could have been expected in a situation in which the marginal phonemic system and the primary system were one and the same, and indicates how important the catalytic effect of *x* < *k'* was in Sl. In Li, as mentioned in section 2, *s* changed after *k* and *r*. Articulatorily, it moved back as in Sl but, so to speak, only one step, i.e. to the group of palatovelars. Later, *s* was transformed into a hushing spirant along with the latter (*g'* > *ž*, *k'* > *s'* > *š*, and correspondingly *s* [after *k*, *r*] > *s'* > *š*), but it never crossed the narrow limits of its phonetically established frame.

It is natural to assume an identical first step in the Sl development (i.e. in the basic phonemic system of CS) as well: *s* (after *k*, *r*, *u*, *i*) > *ś*, so that the system obtained was

$$\begin{array}{cccc} p-b & t-d & k'-g' & k-g \\ & s & \acute{s} & x \end{array}$$

Then, because of the attraction toward *x* caused by its affective character, the articulation of *ś* was moved farther back, toward *x* (it is irrelevant whether this occurred through a *x́*-stage), before *k'* and *g'* changed into *ś*, *ź*

as they did subsequently (See chapter 9); thus the reflexes of *k'*, *g'* never had a chance to coalesce with the reflexes of *s* (after *k*, *r*, *u*, *i*) as in proto-Li. The twofold nature of Sl *x*, phonemic and affective, has been maintained by Sl until today, although at present its affective function is reflected rather indirectly through word derivational inventory (affective suffixes containing *x*) and procedures (use of *x* with what seem synchronically to be truncated roots). It may be assumed that the directly perceptible affective coloration of *x* as a sound in CS was quite alive until the time of the first palatalization of velars (See 17,1) when *x* became *š* in many words and word forms, a regular member of the basic phonemic system and the regular alternant of *x*. This contributed to the stronger incorporation of *x* in the phonemic system of the language, a process begun with the rise of *x* from *s*.

10. Chronology and historical background. As shown, the change *s* > *x* was in all probability a gradual alteration which continued through some intermediary stages and was supposedly even begun at different times in different phonetic environments, first after *k*, later after *u*, *i*, etc. It may have occurred only after the change of *kʿ* into *x*, i.e. after the loss of aspirated stops because otherwise there would have been no *x* from *kʿ* to serve as a catalyst in the rise of *x* from *s*; and only prior to the change of *k'* into *s*, because this new *s* did not undergo any changes toward *x* (See 9,8).

Despite some striking similarities in the Sl and Indo-Irn treatments of *s* after *k*, *r*, *u*, *i*, the Sl development undoubtedly took place after the severance of the original ties between these two linguistic groups. This is evident from the divergent details, as shown in 8,2, and particularly in the treatment of *s* in the clusters *k's* and *sk'* (See 9,5).

Indications of the absolute chronology of the rise of *x* in Sl, at least concerning *ad quem*, is supplied by loan words. The change *s* > *x* was completed and no longer operative in CS before the first close Sl-Germ contacts, i.e. in any case before the third century B.C. This is obvious from two circumstances:

a) In Sl words borrowed from Germ, *s* did not change into *x* after *u* and *i*. Cf. OCS *cěsarjь* 'king' < Go *kaisar*; OCS (*is*)*kusiti* 'test' < Go *kausjan*; RChSl *useręzь* 'earring' < Go **ausihriggs* ~ *ausahriggs*.

b) CS renders Germ *h* systematically as *x*, e.g. RChSl *xyzъ* 'house' < Balkan Germ **hûs*; OCS *xlъmъ* 'hill' < OGerm **hulma-*; SC *vlȁh* 'Romanian' < Go **Walhs* (which in turn is from Ce *Volcae*); P *szata* 'attire' < OGerm **hētaz* (MHG *hâz* 'clothes'). Thus, by that time *x* was a full-fledged phoneme in Sl: it is impossible to assume that Germ *h* could have been rendered first by *s* or *ś*, predecessors of *x*. Languages which do not have *h* or *x* usually render *h* in loan words as a velar stop (e.g., Fe of the ancient time) or omit it.

As for Sl words with *x* supposedly borrowed from Irn, their origin is not definitively established (See 8,8). If they are actually Irn loan words, the existence of *x* in Sl is not excluded even for the sixth – fifth centuries B.C.

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9. LOSS OF PALATOVELARS AND RISE OF *Z*

1. General statement. 2. Area. 3. Identification of palatovelars. 4. Examples. 5. *k'* contiguous to *s*. 6. Confusion of velar series. 7. Conditions and effects. 8. Chronology and historical background. 9. Other sources of Sl *z*.

1. Palatovelars *k'*, *g'*, *ǵ'* are supposed to have comprised the third series of IE velars, along with labiovelars and regular velars (See 7,1). Attempts to show that palatovelars were only allophones of velars in the position before front vowels fail at least for those IE dialects from which Sl emerged: numerous cases of palatovelars preceding non-front vowels and, on the other hand, of velars (and/or labiovelars) before front vowels make the existence of late IE and early CS palatovelar phonemes undeniable; the contention that the attested distribution of velars was due to analogy must be refuted. E.g. to explain *k'*, in OI *aṣṭā́(u)* 'eight' (Av *ašta*, Li *aštuonì*, Le *astuôņi*, OCS *osmь*), one invokes an analogy with OI *aśīti* 'eighty' although the only probable influence, if any, would be in the opposite direction, i.e. 'eight' reshaping the word meaning 'eighty'.

Due to the general loss of aspirated stops, the number of Sl palatovelars was reduced to two at an early period: *k'* and *g'*, the latter continued both IE *g'* and *ǵ'* (See 3,1).

The change under consideration in this chapter is the CS spirantization of these two stops: *k'* yielded *s*, *g'* yielded *z*. Theoretically, a transitional stage of *ś*, *ź* may be assumed which, in turn, may have been preceded by affricates of the *ć*, *ʒ́* type. This is the most frequent way of changing palatalized velars into spirants, a linguistic development often occurring in languages of various types and structures.

2. Area. Sl shares the change of *k'* into *s* with Irn (as represented e.g. by Av) and Arm. The change of *g'* into *z* is shared with Irn. A broader group of IE languages is obtained if they are classified on the basis of a more generalized formula: *k'*, *g'* changed into spirants. In this case OI, Alb, Balt and possibly Thra and Phrygian join the group. In nineteenth-century comparative philology great importance was attributed to this grouping. The languages listed above were called the Oriental group (or primitive dialect) of IE, also termed *satəm*-group (*satəm* is Av for 'hundred', from IE **(d)k'm̥tom*), as opposed to the Occidental group (Gr, It, Ce, Germ) which retained its stops (P. von Bradke, 1888), the so-called *centum*-group (La for 'hundred', from the same IE form). Later discoveries of new "*centum*-languages" in the East, To and Hi, undermined the geographical importance of this division, and it became obvious that this division hardly reflects any actual dialect grouping in the primordial IE

language. Although the "*satəm*-languages" probably followed the same tendency arisen in a group of adjacent IE dialects, they proceeded independently in their spirantization of palatovelars. This is obvious partly from the differing results of the changes, but primarily from the fact that the loss of palatovelars was preceded in each language by other changes not common to all these languages.

3. Identification of palatovelars. In Sl, palatovelars coalesced with *s* and *z* of other origins (For *z* of another origin, see 9,9). Therefore, Sl data are insufficient for identification of palatovelars and must be compared with data of the other IE languages. The set of correspondences for IE *k'* is: Hi, To, Gr, La, Ce *k* (In La and Ce denoted *c*); Go *h* word initially, *g* word internally, – all these reflexes being basically the same as for IE *k*; OI has *ś*, Av *s*, Arm *s*, Alb *s/th*, Li *š*. Sl *g'* of this period has two sets of correspondences because it goes back to two IE consonants: *g'* and *ǵ'*. For *g'*, the correspondences are: Hi, To, Go *k*; Gr, La, Ir *g*; OI *j*; Av *z*; Arm *c*; Alb *z/d*; Li *ž*. For the correspondences of *ǵ'* see 3,3. In To, Ir, Av, Alb, and Li they do not differ from the reflexes of *g'*.

4. **Examples.** *k'* : R *súka* 'bitch' – Li *šuõ* 'dog', Le *suns*, OPr *sunis*, OI *śúvā*, Av *spā*, gen *sunō*, Arm *šun*, Gr κύων, La *canis* (with irregular *a*), Go *hunds*, To *ku*;

R *sláva* 'glory' – Li *šlovẽ* 'splendor', Le *slava* 'rumor', OI *śrávas* 'praise', Av *sravah-* 'word', Gr κλέ(ϝ)ος 'glory', OIr *clú*;

R *sulít'* 'promise' – Li *šul̃nas* 'stately', OI *śū́ras* 'strong', Gr κύρος 'strength', Cym *cawr* 'giant'.

Further examples: OCS *prъsь* 'breast', *sujь* 'vain', *sь* 'this', *vьsь* 'village'; R *osót* 'thistle', *jástreb* 'hawk', *solóma* 'straw', *nesú* 'carry', *sem'já* 'family', *prosít'* 'request', *sto* 'hundred', *losós'* 'salmon', *pisát'* 'write', *désjat'* 'ten', *svet* 'light', *vósem'* 'eight', *porosënok* 'shoat', *sérdce* 'heart', *svjatój* 'saint', *sérna* 'chamois', *sovát'* 'poke', P *krzesać* 'strike (fire)', etc.

g' : OCS *zǫbъ* 'tooth' – Li *žam̃bas* 'pointed object', Le *zùobs* 'tooth', OI *jámbhas*, Gr γόμφος 'plug', Alb *dhëmb* 'tooth', OHG *kamb* 'comb', To A *kam* 'tooth';

OCS *zętь* 'bridegroom' – Li *žéntas* 'son-in-law', Le *znuõts*, OI *jñātíṣ* 'relative', Gr γνωτός;

R *mázat'* 'smear' – Li *mẽžti* 'clear of dung', Le *muõzêt* 'banter', Arm *macanim* 'coagulate', Gr μαγίς 'kneaded stuff', OHG *mahhôn* 'compose'.

Further examples: R *znat'* 'know', *paz* 'slot', *berëza* 'birch', *zernó* 'grain', *molózivo* 'colostrum', *zvezdá* 'star', *lizát'* 'lick', U *blýzna* 'scar', P *gwizdać* 'whistle', Bg *glézja* 'caress', etc.

ǵ' : R *zájac* 'hare' – Li *žáidžiu* 'jump', OI *háyas* 'horse', Arm *ji*, La *haedus* 'goat', Go *gaits*;

R *ózero* 'lake' – Li *ẽžeras*, Le *ezers*, OPr *assaran*, Gr 'Αχέρων 'river in Hades';

R *voz* 'cart' – Li (*ùž*)*važas* 'ascent', OI *vahas* 'riding', Gr (F)ὄχος 'carriage', ON *vagn*.

Further examples: R *kozá* 'goat', *úzkij* 'narrow', *jazýk* 'tongue', *zemljá* 'earth', *ziját'* 'yawn', *zloj* 'evil', *zad* 'back', *bez* 'without', *zimá* 'winter', *zver'* 'animal', *ëž* 'hedgehog' (< **ez* + *j*-), *zelënyj* 'green', *železá* 'gland', *zóloto* 'gold', Bg *vrəzvam* 'tie', *az* 'I' (with reflexes of *g'* in Gr ἐγώ, La *ego*, Go *ik*).

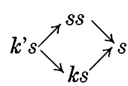
It is impossible to establish the original velar of those words which have no correspondences in languages that distinguish between the reflexes of *g'* and *ǵ'*, e.g., R *jázva* 'sore'.

5. *k'* contiguous to *s*. *k'* could preserve its character of velar stop only if it was preceded by *s*: in the cluster *sk'* it was dispalatalized. Balt also has *k* after *s* but in this cluster *s* changed into *š* in Li , as if adopting the palatalization of *k'*. In Av *k'* developed normally in this position, i.e. yielded *s* which merged with the foregoing *s*. OI presents a special reflex: *cch*.

The only unambiguous example is Sl (R) *iskát'* 'seek' – Li *ieškóti*, Le *iẽskât* 'louse', OI *iccháti* 'seek', Av *isaiti*, OHG *eiskôn* 'investigate'. R *ískra* 'spark' does not have any correspondences besides Li *iškùs* 'clear'; although it probably goes back to **(j)isk'* – this cannot be positively proved. R *vosk* 'wax' has correspondences in both Balt (Li *vãškas*, Le *vasks*) and Germ: OHG *wahs*, but the latter does not clarify the situation either. The word is usually derived from **u̯oks-* because a connection is established with **u̯eg-* 'weave'.

A contradictory example is OCS *tysęšti* ~ *tysǫšti* 'thousand', from **tūs* ÷ *k'm̥tom*, literally 'strong hundred', possibly due to the boundary of the two stems and influence of the simple word **k'm̥tom* in which *k'* > *s* regularly. OCS *pasǫ* 'graze' which corresponds to La *pāscō*, To B *pāsk-*, Hi *paḫḫši* probably had another determinative in Sl, not *s* + *k'*: cf. the lack of correspondences in Balt and Indo-Irn and the use of other determinatives in Gr πατέομαι 'eat' and Go *fōdjan* 'feed'.

It is impossible to reconstruct the development of the cluster having the reversed order: *k's*. In Sl it undoubtedly yielded *s* (Li *š*, Av *š*, OI *kṣ*), but two paths of development are admissible. It is possible that in this cluster *k'* > *s* as in all other positions, and the geminated *ss* simplified into *s*. But it is also possible that *k'* was dispalatalized, as in the cluster *sk'*; in later CS *ks*-clusters of any origin became simplified into *s*. The two possible evolutions may be presented as follows:



The examples are: R *tesát'* 'hew' – Li *tašýti*, OI *takšáti*, Av *tašaiti* 'create', Gr τέκτων 'carpenter', La *texō* 'weave', OHG *dehsala* 'axe';

Cz *slémě* 'beam, ridge' – Li *šelmuõ* 'gable', Le *salmene* 'thatch', Gr σέλμα 'beam' (<**k's-*), AS *se(a)lma* 'bed'.

Further examples: OCS *desnъ* 'right', R *os'* 'axis', possibly *morosít'* 'drizzle'. See also 8,2.

6. Confusion of velar series. There are instances in Sl in which *k* apparently alternates with *s*, and *g* with *z*. Since IE had no alternation *k* : *s*, *g* : *z* and the correspondences in other IE languages show that Sl *s*, *z* in these cases go back to IE *k'*, *g'*, it may be assumed that the Sl alternation arose before the alteration of *k'*, *g'* into *s*, *z* and was based on an older interchange of *k* with *k'*, and *g* with *g'*. Balt has less numerous traces of these relationships. Besides examples attesting both variants in Sl or in Sl and Balt, divergent examples between Sl and Balt are found. In those cases Sl had mainly reflexes of a velar (*k*, *g*) while

Balt had reflexes of palatovelars (*k'*, *g'*). Only in exceptional cases is reverse distribution found. Indo-Irn in virtually all these cases has the reflexes of palatovelars (OI *ś*, *j*). Although the number of deviations is limited, there are too many (up to 30) to simply disregard them as occasional irregularities.

The main data on the confusion of velar series in Sl follow.

A. Two variants of the root within Sl.

Aa) Sl *k* : *k'* (> *s*): R dial *brokát'* 'throw', SC *bŕknuti* 'throw away', M *brkne*, Bg *brə̀kna* vs. RChSl *brъsnǫti* 'scrape', R *brosát'* 'throw', Sn *bŕsati* 'stripe', Bg *brə̀ša*. Balt points to *k*: Li *brùkti* 'squeeze in', Le *brukt* 'crumble away';

R *čerëmuxa* 'birdcherry' (with *č* < *k*), Br *čarómxa*, U *čerémxa*, P *trzemcha* (with *t* < *č*), Sk *čremcha*, Cz *střemcha*, Sn *črêmha* vs. Sn *srêmša* 'mountainash', SC *srêmuš* 'wild garlic'. Balt also has forms with both reflexes of *k* and *k'* : Li *šermùkslė* 'mountainash' ~ *kermùšė* 'wild garlic', Le *cērmaûkša* ~ *sḕrmauksis*;

R *klonít'* 'bend', U *klonýty*, P, US *klonić*, LS *kloniś*, Sk *klonit'*, Cz *kloniti*, Sn *klóniti*, SC *klòniti*, Bg *klonjá* vs. R *slonít'* 'lean', Br *(za)slanic'* 'veil', U *(za)slonýty*, P *slonić*, US *(za)slonić*, Sk *slonit'*, Cz *sloniti*, Sn *(za)slóniti*, SC *(za)slòniti*, Bg *(za)slonjá*. Indo-Irn points to *k'*: OI *śráyatē* 'lean', Av *srayatē*. Balt like Sl has doublets: Li *klãnas* 'puddle', Le *klans* vs. Li *šliẽti* 'lean', Le *slenêt* 'beat';

R, U *koróva* 'cow', Br *karóva*, P, LS *krowa*, Pb *korvó*, US *kruwa*, Sk, M *krava*, Cz, Sn, Bg *kráva*, SC *krȁva* vs. R *sérna* 'deer', P, LS *sarna*, US *sorna*, Sk, Cz *srna*, Sn, SC *sŕna*, Bg *sərná*. Indo-Irn points to *k'*: OI *śŕ̥ŋgam* 'horn', Av *srvā-*. Balt has both reflexes: Li *kárvė* 'cow', OPr *kurwis* 'ox' vs. OLe *sirna* 'deer', OPr *sirvis*;

R dial *káva* 'daw', Br *káwka*, U *kávka*, P, US *kawka*, Cz *kavka*, Sn, SC *kȃvka* vs. R, U *sová* 'owl', Br *savá*, P, LS, US *sowa*, Sk, Cz *sova*, Sn *sóva*, SC *sȍva*. Indo-Irn points rather to *k*: OI *kắuti* 'shout', Arm to *k'*: *sag* 'goose'. Balt has both reflexes: Li *nakti-kova* 'owl', *kóvas* 'daw' vs. *šaũkti* 'shout';

the situation is even more intricate in R, U *xólod* 'cold', Br *xólad*, P *chłód*, LS *chlodk* 'shadow', US *chłódk*, Sk, Cz *chlad* 'cold', Sn, SC *hlâd*, Bg *xlad* vs. OCS *slana* 'hoarfrost', Sn, SC, Bg *slána*. Balt and Irn point to *k'*: Li *šáltas* 'cold', *šalnà* 'frost', Le *sal̂ts* 'cold', *sal̂na* 'frost', Av *sarəta-* 'cold'. If Sl *x* in this root goes back to IE *k'* there must be a vacillation between *k'* and *k'*;

Ab) Sl *g* : *g'* (> *z*): R *bergléz* 'goldfinch', P *bargiel*, Sk, Cz *brhlík*, Sn *bȓglez* 'nutcracker', SC *br̀glēz* 'Sitta syriaca' (from **bьrg-lěz-* 'fast climber'), M *brgo* 'fast' vs. R *borzój* 'quick', Br dial *bórzdy*, U *bórzyj*, OP *barzo* 'very', LS *bórze* 'quick', US *bórzy*, Cz *brzý*, Sn *bŕz*, SC *bȑz*, M *brz*, Bg *bərz*. Non-Sl correspondences are scarce. Li *burzdùs* 'agile' points to *g'*;

R *górod* 'town' (as well as *žerd'* 'perch'), a root well represented with corresponding forms in all the Sl languages, vs. R dial *(o)zoród* 'stack', Br *azjaród* 'drying shed', OBr *zeremja* (<**zerdm-*) 'beavery'. While *g* is attested in Li *gar̃das* 'cot', OI *gr̥hás* (< **gr̥dh-*) 'house', Av *gərədō* 'cave', Alb *garth* 'fence', reflexes of *g'* are extant in Li *žárdas* 'pen', Le *zãrds*, OPr *sardis* 'horse enclosure', Phrygian *-zordum*;

R *žëltyj* 'yellow', Br *žówty*, U *žóvtyj*, P *żółty*, LS, US *žolty*, Sk *žltý*, Cz *žlutý*, Sn *žôlt*, SC *žût*, M *žolt*, Bg *žəlt* with *ž* from *g* (originally *g'*), as confirmed by words of the type R *gljadét'* 'look', *gládkij* 'smooth' having the same root in another grade of root vowel alternation, vs. R *zelënyj* 'green', Br *zjalëny*, U *zelényj*, P *zielony*, LS, US *zeleny*, Sk, Cz *zelený*, Sn *zelèn*, SC *zèlen*, M *zelen*, Bg *zelén* (also the group of words meaning 'gold' as in R *zóloto*). Alb points to *ǵ'*: *dhelpër* 'fox', as does Indo-Irn: OI *háriṣ* 'yellow', Av *zairi-*, while Balt has both reflexes: Li *gel̃tas* 'yellow', Le *dzelts*, OPr *gelatynon* vs. Li *žélti* 'grow green', Le *zaļš*, OPr *saligan* 'green';

R dial *púga* 'wide end of egg', U *pu(ho)holóvok* 'tadpole' vs. R, U *púzo* 'belly', Br *púza*. OI testifies to *g*: *pūgas* 'pile', while Balt reflects *g* in Le *pàuga* 'bolster' and *g'* in Li *pùžas* 'blacktail; bigbellied person';

NR *slígoza* 'crawling baby' vs. R, Br *sliz'* 'mucus', U *slyz*, Sn *slȋz*, Bg *slíza* 'spittle'. The word apparently has no correspondences in languages distinguishing between *g* and *g'*;

B. Sl has uniform reflexes but they disagree with Balt.

Ba) Sl has reflexes of *k* whereas Balt points to *k'* or to both *k* and *k'*:

R *cévka* 'bobbin, teat', U *cívka* 'spool, spurt', P *cewa* 'pipe', Pb *cev* (zêw) 'yarn, bobbin', LS *cowa* 'pipe', US *cywa*, Sk *cieva* 'vein', Cz *cév* 'pipe', Sn *cę̂v*, SC *cȇv* 'spool', Bg *cev* 'barrel' (with *c* < *k*). Li corresponds with *šeivà* 'spool', Le has *saiva*;

R *kámen'* 'rock' (represented in all the Sl languages) vs. twofold reflexes in Balt: Li *ãšmenys* 'edge' and *akmuõ* 'stone', Le *asmens* 'edge' and *akmens* 'stone'. OPr had *ackons* 'awn'. Av points to *k'*: *asman-* 'rock', OI had *áśmā* 'block of rock';

R *klet'* 'store-room', Br *klec'*, U *klit'*, P *kleć*, LS, US *klětka* 'bird cage', Sk *klietka* 'cellar', Cz *kletka*, Sn *klę̂t*, SC dial *klêt* 'closet', Bg *klet* 'cage' vs. Li *klė̃tis* 'granary', Le *klēts*, but also Li *šlìtė* 'ladder';

R, Br *korm* 'forage', U *kormý*, P *karm* 'food', LS *kjarm*, US *korm*, Sk, Cz *krm*, Sn, SC *kŕma* 'forage', M *krma*, Bg *kərma* vs. Li *šérti* 'feed';

R *svëkor* 'father-in-law', Br *svëkar*, U *svékor*, P *świekier*, Sk *svokor*, Cz *svekr*, Sn *svẹ́ker*, SC *svȅkar*, Bg *svékər*. The usually reconstructed IE form is **su̯ek'uros*, as attested by OI *śváśuras*, Av *χvasura-*, Li *šẽšuras*, but the reconstruction contradicts the Sl forms with reflexes of *k*;

Bb) Sl has reflexes of *g*, while Balt points to *g'*:

R dial *glëzna* 'shinbone', Sn *glézenj* 'ankle, knuckle', SC *glȅžānj* M *glezen*, Bg *glézen* vs. Li *slė́sna* 'knuckle' (with *s* from **ž* by assimilation to the following *-s-*);

P *gwiazda* 'star', LS *gwězda*, US *hwězda*, Sk *hviezda*, Cz *hvězda* vs. Li *žvaigzdė̃*, Le *zvàigzne*, OPr *svāigstan* 'shine' (acc sg) (but see 21, 6);

R *gus'* 'goose', Br *hus'*, U *húska*, P *gęś*, LS *gus*, US, Sk, Cz *hus*, Sn *gộs*, SC *gȕska*, M *guska*, Bg *gə́ska* vs. Li *žąsìs*, Le *zùoss*, OPr *sansy*, OI *hamsás*;

Bc) Sl has reflexes of *k'*, while Balt points to *k* or both *k* and *k'*. These cases are infrequent:

R *slúšat'* 'listen', Br *slúxac'*, U *slúxaty*, P *sluchać*, LS *sluchaś*, US *slušeć*, Sk *slušat'*, Cz *slušeti* 'suit', Sn *slúšati* 'listen', M *sluša*, Bg *slúšam*, with an exact counterpart in OI *śróṣati* 'hear', but Balt has forms going back to IE *k-*: Li *klausýti* 'hear', OPr *klausēmai*, 1 pl;

R *sem'já* 'family', U *simjá* have their correspondences in Li *šeimà* 'menials', Le *sàime*, OPr *seimīns*; but Balt also has a variant with *k-*: Li *káimas* 'village', *kiẽmas* 'farmstead', Le *cìems* 'menials', OPr *caymis* 'village'.

C. Sl and Balt have reflexes of *k*, *g*, but Indo-Irn has reflexes of *k'*, *g'*.

Ca) Sl *k* vs. Indo-Irn *ś*: R *čeredá* 'turn', Br *čaradá* 'herd', U *čeredá* 'flock', P *trzoda* (< *čr-*), US *črjoda* 'heap', Sk *črieda* 'herd', Cz *třída* 'order', Sn *črẹ́da* 'herd, row', SC *čréda*, Bg *čərdá*, also Li *kef̃džius* 'shepherd' but OI *śárdhas* 'herd', Av *sarəda-* 'sort';

R, U, Bg *kosá* 'scythe', Br *kasá*, P, LS, US, Sk, Cz *kosa*, Sn *kósa*, SC *kòsa*, but OI *śásati* 'cut';

R *(u)krotít'* 'tame', P *(u)krocić*, Cz *krotiti*, Sn *krotíti*, SC *(u)kròtiti*, Bg *krotjá*, but OI *śrathnāti* 'slacker';

OCS *kotora* 'discord', Li *katãryti* 'hit', but OI *śátruṣ* 'enemy'.

Cf. also Balto-Indo-Irn discrepancies: Li *pẽkus* 'cattle' vs. OI *paśúṣ*; Li *smãkras* 'chin' vs. OI *śmaśru* 'beard', etc.

Cb) Sl has *g(')* with which Balt does not differ, but Indo-Irn points to *ǵ(')*:

R *béreg* 'shore', Br *bérah*, U *béreh*, P *brzeg*, LS *brjog*, US *brjóh*, Sk *breh*, Cz *břeh*, Sn *brę̂g*, SC *brȇg*, M *breg*, Bg *brjag*; cf. also Alb *burg* 'mountain, shore'. But OI *bṛhant* 'high', Av *barəzah-* 'mountain', Arm *barjr* 'high'.

The bulk of the material being presented (25 roots)[1], certain generalizations may be drawn. One immediately notices that OI fairly consistently has reflexes of palatovelars where Sl reveals reflexes of velars or doublets. In only two roots Indo-Irn has reflexes of *k* while Sl has reflexes of both types of velars (R *sová* : *káva*, *górod* : *ozoród*). Balt also has reflexes of *k'*, *g'* more often than Sl: the total number of forms with regular velars in Sl is 23, in Li 12; the total number of forms with palatovelars in Sl is 13, in Li 18.

If discrepancies are found between Sl and Balt, or if Sl and Indo-Irn differ with Balt, or Sl differs with Balt and Indo-Irn it may be theoretically assumed that any one of the three groups innovated. However, actually students have always considered Indo-Irn data to reflect adequately the IE status, while Sl is deemed particularly prone to innovations. This approach probably evolved because IE comparative linguistics was originally founded on the comparison of the classic languages with OI after the discovery of the latter, and the feeling that OI is the most ancient language has never been entirely dissipated. Also Li is generally considered more archaic than Sl. However, there is no inherent reason to assume the greater antiquity of non-Sl data before the facts are thoroughly examined.

Several theories were advanced to explain the Sl "deviations" in reflexes of IE palatovelars as reconstructed mainly on the basis of Indo-Irn data, but none could cover all the roots involved. The theory which may be termed of a prohibitive dissimilation seems quite plausible: when spirants *s* or *z* occurred in the same root (or word), by virtue of a dissimilation *k'*, *g'* would lose their palatalization and yield *k*, *g* instead of changing into *s*, *z* (Meillet). This applies to the words (R) *bergléz*, *slígoza*, *svëkor*, *glëzna*, *gus'*, *kosá*, (P) *gwiazda*. However, there are some contradictory facts. (R) *slúšat'* does not refute the assumption because by that time the second *s* had changed into *x* (now *š*) so that the word did not contain two *s* at the same time. But Sl does have some words of an older period with two *s* (or *s* and *z*) in their roots, one of them going back to *k'* (or *g'*): R *slezá* 'tear', *svist* 'whistle', Cz *srst* 'wool', possibly R *sízyj* 'dove colored', *sosná* 'pine'. The first may be discarded as affective, but the other cases must be considered. True, dissimilations usually are not of an obligatory and comprehensive character and could have been operative in some Sl words and not in others. At any rate, even if the influence of a prohibitive dissimilation in reflexation of palatovelars is assumed, this would explain no more than 7 of the at least 25 roots.

Other attempts were made, viz. to consider some of the deviations as loan words from Germ (Brugmann *et al.*) or from some other, unidentified "*centum*-language". In particular, the words (R) *górod*, *gus'*, *béreg* were scrutinized from this point of view. Details belong to etymological dictionaries, but

[1] Other words which possibly pertain have additional complications, e.g. doublets of velars and palatovelars are accompanied by discrepancies in voicing (as in R *porosënok* 'shoat', *svist* 'whistle', *molokó* 'milk'), etc. See also chapter 24.

in general there are no valid proofs that these were Germ borrowings. As for the unknown "*centum*-language" (Moszyński; some considered Ill) since it is unknown the theory of borrowing cannot be either proved or disproved. If Fi *sarvi* 'horn' was borrowed from a CS word with the same root as (R) *koróva* 'cow', it proves that Sl had a parallel form with *s*-, but does not show that the form with *k*- was later borrowed into Sl: these could have been doublets such as those attested in many other cases.

It is also important to distinguish between initial and final position in a root. In final position the consonant was exposed to certain alternations, some old, as in (R) *svëkor* (Masc **svek'uros* vs. fem **svekrūs*, according to Pedersen), some which developed later when *g*, before front vowels and *j*, became *ž*, as did *z* followed by *j* (See 13,3 and 13,4). Accordingly, in case of R *pyž* 'wad' one cannot decide whether it goes back to a root with *g*, as in R *púga*, or to that with *z*, as in R *púzo*. Thus, in (R) *púga* – *púzo*, *slígoza* – *sliz'*, *béreg*, either *g* or *z* could be of a secondary origin, incorrectly (from the historical viewpoint) derived back from forms with *ž* (As in more modern time R *fljága* 'flask' is derived back from *fljážka* borrowed from P *flasza*, G *Flasche*). However, in most instances Sl doublet reflexes of velars occur in the root initial position to which this explanation does not apply.

Thus, no satisfactory general explanation may be offered. But it is easier to explain irregular palatalization in our case than irregular dispalatalization. Frequently, languages use additional (superimposed) articulations for affective word coloration, particularly if the function of these articulations is marginal in the phonemic pattern of the language. Examples in historically attested Sl are readily available. Cases of affective affricatization in voiced spirants are well known in M, Bg, and U (M *ʒvonec* 'bell' < *zvon*-, U dial *ʒvir* 'beast' < *zvir*, etc.) The preservation and spread of IE *k'* in Sl (See 8,7) were due to the peculiar affectivity of its additional aspirated articulation when opposition in aspiration became marginal after the loss of aspirated voiced stops. Palatalization also often implies a more complex articulation than that of non-palatalized consonants and, consequently, is sometimes used as a device of affectivity. This is, e.g., the origin of SR *djúžij* 'robust' vs. Br *dúžy*, U *dúžyj*, P *duży*, or Sk *d'aleký* 'far' as opposed to P *daleki*, Cz *daleký*, etc. In R, however, cases of affective palatalization are not expected to be numerous because the opposition in palatalization is by no means marginal in R. But the opposite situation prevailed in Indo-Irn and Balt. Therefore, one may plausibly assume that in many cases in which Sl has reflexes of regular velars, Indo-Irn or Balt *k'*, *g'* testify to Indo-Irn or Balt innovations, and that Sl was in this respect more conservative than Indo-Irn.

In addition to the possibilities of prohibitive dissimilations, of borrowings from certain "*centum*-languages", and of later back derivations in root final position, the expressive character of palatovelars as opposed to regular velars explains how the discrepancies could have arisen between Sl and Balt, Sl and Indo-Irn, and in a few instances, Alb and Arm. But it will hardly ever be possible to explain in detail every root involved.

7. Conditions and effects. The loss of the palatovelars *k'*, *g'* was the last link in the chain of early CS developments whose direction, in articulatory terms, was toward more front articulation: loss of aspiration, loss of labiovelars, possibly loss of laryngeals – all directly or indirectly helped to decrease back articulations and to shift the "center of articulation" toward the front of the oral cavity. The only change in the opposite direction, $s > x$ (after *k*, *r*, *u*, *i*) was loaded with affective functions, thus accounting for its unique character.

Besides the general articulatory tendency to concentrate the most part of the phonemic oppositions in front articulated sounds the loss of palatovelars was favored by the odd character of the opposition in palatalization. CS generally had no oppositions in palatalization at this time, except in velars: *k* : *k'*, *g* : *g'*. The odd character of this opposition is indirectly attested by the affective functions ascribed to palatalized velars probably reflected in presence of certain doublets with regular velars and palatovelars: although *k'*, *g'* did not spread as much in Sl as in Indo-Irn and Balt, evidence of the type R *brosát'* : SC *bŕknuti*, R *klonít'* : *slonít'* (See 9,6) is unambiguous.

The change of palatovelars into dental spirants meant complete disappearance of the early CS opposition in palatalization. It also created *z*, a voiced counterpart to *s*. Before the change the system of CS connsonants was

$$\begin{array}{cccc} p - b & t - d & k' - g' & k - g \\ & s & & (x) \end{array}$$

afterwards, it became:

$$\begin{array}{ccc} p - b & t - d & k - g \\ & s - z & x \end{array}$$

From that time on, the dental group became the kernel of the consonantal system; the number of stops diminished, of spirants increased. Opposition in voicing was introduced in spirants for the first time. Theoretically, this created opportunities for the appearance of more spirants in all segments of the consonantal system: *f* and *v* in labials, γ (*h*) in velars. The subsequent history of Sl shows that these vacancies actually tended to be filled although in some Sl languages this process is still incomplete. The tendency toward such a simple and symmetrical system of stops and spirants was complicated and partially thwarted by an intricate interplay of other changes and tendencies.

Thus, the immediate effects of the alteration *k'*, *g'* > *s*, *z* were: 1) the appearance of a new phoneme, *z*; 2) the elimination of opposition in palatalization; 3) the introduction of opposition in voicing in spirants.

8. Chronology and historical background. The relative chronology of *k' g'* > *s*, *z* is established by the fact that *s* from *k'*, does not change into *x* after *k*, *r*, *u*, *i* as, e.g. in Sl words represented by OCS *prьsi* 'breasts' (Li *pìršys* 'horse breast', OI *párśuṣ* 'rib', Av *pərəsu-* 'rib, side'), *vьsь* 'village, field, place' (Li *viẽš-kelis* 'highway', Le *vìesis* 'stranger', OI *viś-* 'settlement', Av *vīs-* 'house', Alb *vis* 'place'), *pьsati* ~ *pisati* 'write' (Li *paĩšas* 'stain', OI *pḗśas* 'structure, color', Av *paēsa-*), R *porosënok* 'shoal' (Li *par̃šas* 'piglet', OPr *parstian*, Kurdish *purs*).

If one assumes that *s* developed into *x* through *ś* > *x*' and, on the other hand, that *k*' developed into *s* through *ć* > *ś* then *k*' should have changed into *ś* after *ś*, from *s*, changed into *x*'. This might be presented in the following stages of evolvement:

1	2	3	4	5
s >	*ś*	> *x*'	> *x*	*x*
k' >	*k*' (or > *ć*)	*k*' (or *ć*, or *ć* > *ś*)	*k*' (or *ć*, or *ś*, or *ś* > *s*)	*s*

As for absolute chronology, we possess no exact indications. Even if it is assumed that words like (R) *gus'*, *górod*, *béreg* were borrowed from Go, this would not show whether *g*' was still *g*' or *ź* at that time. The Go word, e.g., for 'goose' (as attested by OHG *gans*) could have been substituted for Sl **g'ansis* as well as for **zansis*. As in Irn *k*', *g*' > *s*, *z* (Av), too, it is tempting to consider the change of palatovelars as common to Sl and Irn and, consequently, place it in the time of close Sl-Irn contacts, before the Gothic invasion, i.e. between the seventh century B.C. and the second century A.D.; but no binding proof exists: identical changes may occur in languages having no contacts at all.

9. Other sources of Sl *z*. The phoneme *z* arose in CS when *g*' yielded *z*. But *z* as a sound was inherited from IE: when followed by a voiced consonant, *s* was pronounced *z* in both IE and the earliest CS. Since it was completely motivated by context, it was but an allophone of *s*. When *z*, from *g*', became a phoneme the old *z*, from *s*, coalesced with the new *z*, severing its ties with *s* except when maintained morphologically. Examples include the following roots:

R *mozg* 'brain' < */*masg-*/ (= [mazg-]) – OPr *muzgeno* 'marrow', Li *smãgens* 'brain' (< **-masg-*), Le *smadzenes*, OI *majján-* 'marrow', Av *mazga-*;
R *uzdá* 'bridle' < **ous-* ('mouth', cf. R *ustá*) + **d'ē-* ('put');
OCS *mьzda* 'reward' – OI *mīḍhám* 'prize', Av *miždəm* 'reward', Gr *μισθός*, Go *mizdō*.

Further examples: R dial *mizgír'* 'spider', *mzga* 'rot', R *gnezdó* 'nest', *drozd* 'ouzel', *grozd* 'cluster', *rózga* 'birch rod'. Also R *mezdrá* 'flesh side (of hide)' and *nozdrjá* 'nostril' if they go back to the compound words **mēms-* (Cf. R *mjáso* 'meat', P *mięso*) + **d'rom* (a suffix as in La *mem-brum*) or **dir-* (as in R *drat'* 'flay'); and **nos-* ('nose') + **dir-* (related to U *dirá* 'hole').

In addition to words containing *z* as a result of assimilations conditioned articulatorily, there are aproximately a dozen morphemes (roots and suffixes) in which *z* is apparently substituted for *s*, albeit there seems to have been no contiguous voiced consonant to assimilate *s*. An attempt was made to treat this as a regular phenomenon, known under the name of Zupitza's law. It posited that *s* changed into *z* if in the stressed syllable and preceded by word-initial *n*, *m*, or a voiced consonant followed by *r* or *l*. The following words were cited as affected by Zupitza's law (besides the above mentioned *mezdrá*, *nozdrjá*, which find another explanation):

R *mozól'* as compared to OHG *masar* 'speck', Gr *μώλωψ* 'callosity' (< **mōsl-*);
U *mjaz* 'muscle' as compared to R, U *mjáso* 'flesh' (although the word does not follow the requirement of stress after *z*: cf. gen sg *mjáza*, nom pl *mjázy*);

R *glazá* 'eye' (pl) as compared to Norw dial *glōsa* 'glitter', MHG *glaren* 'glow' (although the stress is not final in sg, except the loc sg);

R *grozá* 'thunderstorm' as compared to Li *grasùs* 'disgusting';

R *grjaz'* 'mud' as compared to Li *grim̃sti* 'sink' (although the stress is not final, except the loc sg).

Beyond the original stipulation Zupitza's law was occasionally extended to include other words:

OCS *drьzъ*, R *dérzkij* 'bold', *derzát'* 'dare' as compared to Gr θρασύς 'bold' (*r* followed the voiced consonant immediately in **dr̥z-* but the stress requirement is met only in the verb);

OCS *mrьzъkъ* 'nasty', R *mérzkij* as compared to Go *marzjan* 'be offended' (the same reservation as in the preceding word);

OCS *brъzъ* 'rapid', R *borzój* as compared to Li *burzdùs* 'agile';

OCS *trězvъ* 'sober' as compared to OI *tr̥ṣṭás* 'arid, dry', Go *þaúrstei* 'thirst', Gr ταρσός 'kiln drying' (the initial consonant is voiceless).

Zupitza's law, although still applied by some students in etymologies, is based on too few satisfactory examples to be either proved or disproved. Some theoretical doubts may be expressed. With regard to stress, it simply identifies present-day stress place with CS which is unwarranted. Chronologically, it must be assigned to the time preceding the change of *s* into *x* after *r*; otherwise, the forms *+dirx-*, *+mirx-*, *+burx-* would be expected, not forms with *z*. But, as shown in section 8, *z* as a phoneme developed in CS when the change of *s* into *x* after *r* had already been completed. Thus, it would mean that in a few words listed above *z* developed at a time when CS had no phonemic *z*. Although this is not impossible, it has little plausibility. Most important, the most part of roots cited above may be characterized in other ways explaining their *z* as secondary or deriving it from *g'*.

Several words used as proofs for the validity of Zupitza's law may be derived from IE roots with *g'* (or *ǵʻ*), not with *s*, and with greater degree of probability. They are:

R *glaz*, P *glaz* 'stone' < **glog'no-*, cf. ON *klakkr* 'clump';

R *grozá* has a better etymology if compared with Li *gražóti* 'threaten', Gr γοργός 'wild', Ir *garg* 'rough', with *z* < *g'*;

OCS *mrьzъkъ* is easily derivable from a root with *g'* as represented by Alb *mërdhij* 'freeze', OHG *murg-fari* 'weak, sickly';

OCS *brъzъ* may be convincingly derived from the IE root with *ǵʻ* as represented by Gr βραχύς 'short'.

In other words cited *z* may result from blendings or assimilations:

in OCS *drьzъ* the root is supposed to have been affected at an early period by another root represented by Irn *dərəzra-* 'strong', OPr *dīrstlan* 'comely', Li *dir̃žti* 'get tough';

trězvъ (OCS) is supposed to have its *z* as a result of a morphological leveling with its rhyme word (R) *rézvyj* 'sportive, fast' which belongs to *rézat'* 'cut' and has its *z* from *g'*;

R *grjaz'* originally had root final *d* (Li *grimstù* 'sink' < **grimzdu*, cf. pret *grimzdaũ*, the inf *grim̃sti*) so that *s* > *z* by assimilation[2];

[2] *Mutatis mutandum* this also applies to Sl (R) *lozá* – cf. Li *lazdà* 'stick', Le *lagzda* 'hazelbush', OPr *laxde*, Arm *last* 'raft', Alb *lajthí* 'hazel'.

U *mjaz*, OP *miąz*, isolated in Sl, in all probability also has a secondary *z* from words of the type (R) *mezdrá* 'flesh side (of hide)', OP *mięzdra*, SC *mézdra*.

Only in R *mozól'* does *z* go back to *s*, and it is unclear how *z* arose. However, even in this word a blending must not be excluded with such forms as Li *mãzgas* 'knot' (R *mozg* 'brain') where *z* is due to assimilation with the following *g*.

Besides the cases presented, with *z* in word-internal position, *z* from *s* in initial position appears in OCS *zvonъ* 'bell, peal', R, Br, LS, Sk, Cz *zvon*, Sn *zvôn*, SC *zvȍno*, Bg *zvənéc* related to OI *svanás* 'sound', La *sonus*, OHG *svan* 'swan'. This *z* is of an onomatopoeic nature: in words denoting sounds there is a frequent tendency to use voiced consonants. Cf. the later reinforcement of *z* into affricate *ʒ* in U *dzvin*, P *dzwon*, M *ʒvon*, which took place in the historical period.

In suffixes, *z* requires an explanation in *-zn(ь)* (also *-izn(a)*) which occurs along with *-sn(ь)*, e.g. OCS *kaznь* 'punishment', *kajaznь* 'repentence', *bojaznь* 'fear', *bolěznь* 'illness', *žiznь* 'life', etc.; cf. also *ukorizna* 'reproach', *trizna* 'prize of contest', *glavizna* 'main thing'; and in the adj *ljubьznъ* 'loving', along with *pěsnь* 'song', ChSl *basnь* 'fable', *vasnь* 'discord'. In this suffix *z* is a Sl innovation (Li has *sn* only, e.g. *degsnìs* 'place of conflagration'). The possibility is not excluded that *-zn-* was substituted for Sl *-sn-* under Germ influence, at first in words close in both sound and meaning, like OCS *prijaznь* 'friendship' and Go **frijōzns*, and later it became fashionable for a certain time and spread to some words of Sl origin (Cf. also Go *andra-wizns* 'provisions', *us-beisns* 'waiting', *ga-rehsns* 'design', etc.).

Thus, there are hardly enough reasons to assume that Sl *z* emerged from any phonetically regular changes other than the spirantization of IE *g'* (*ǵ*).

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10. COALESCENCE OF Ō̆ AND Ā̆

1. General statement. 2. Area. 3. Identification of ō̆ and ā̆. 4. Examples. 5. Loan words and toponyms. 6. Development of ō̆ and ā̆ in endings. 7. Relative chronology and historical background. 8. Conditions and effects. 9. Preliminary notes on Slavo-Romanian contacts. 10. Romanian evidence for the character of the vowel resulting from the coalescence of ō̆ and ā̆.

1. Early CS phonetic changes include the coalescence of *o* and *a* and resp. *ō* and *ā*. The product of this coalescence was phonetically closer to *a* than to *o*, as observable in the evidence provided by Sl borrowings and Sl loan words in non-Sl languages (See section 5). The [a] character of this sound in Sl is further confirmed by the fact that the long variant of the vowel yielded *a* in predivisional CS. It may be surmised that the vowel resulting from the coalescence of *ō̆* with *ā̆* was a kind of *a* preceded by an *o*-type on-glide: *oa* (on Rm evidence for this see section 10). In its long variant the length was naturally concentrated on main part of the vowel: *oā*. Since its counterpart in the Sl vocalic system is traditionally denoted *ě*, one could also denote this vowel as *ǒ*. However, this is unusual; in this book it will be denoted ${}_{o}a$, with understanding that it was a single complex vowel, not a diphthong.

The two vowels *ō̆* and *ā̆* coalesced not only as monophthongs, but also as components of diphthongs. The general formula for this change would be:

$$\breve{\bar{o}},\ \breve{\bar{a}} > {}_{o}\breve{\bar{a}}$$
$$oi,\ ai > {}_{o}ai$$
$$ou,\ au > {}_{o}au$$
$$or,\ ar > {}_{o}ar$$
$$ol,\ al > {}_{o}al$$
$$o\mathrm{N},\ a\mathrm{N} > {}_{o}a\mathrm{N}.$$

On possible deviations in endings, see section 6.

2. Area. In most groups of the IE languages *o* and *a* coalesced. In the system of vocalic alternations *a* was the most weakly incorporated member; and there were additional reasons for coalescence in the developments of individual IE languages.

Without going into details, it may be stated that in Indo-Irn *ō̆* > *ā̆*, but unlike Sl, IE *ē̆* also became *ā̆* in these languages. In Germ *ŏ* and *ă* coalesced in *ă*, while *ō* and *ā* concurred in *ō*. Ce merged *ō* and *ā* in *ā* in stressed syllables. In Alb *ŏ* and *ă* coalesced in *ă*. Balt merged *ŏ* and *ă* in *ă*, but preserved the distinction between *ō* and *ā*. As for *ā*, it consistently yields *ō* in Li, *ā* in Le, and normally *ā* in OPr; the reflexes of *ō* are split: Li *uo* and *ō*, Le *uo* and *ā*, OPr *ō*,

oa and *u*. It is generally accepted (J. Schmidt) that *uo* in Li and Le is the only outcome of the strictly phonetic development of ō, whereas ō and resp. ā were introduced in alternation series on the analogy with ă, the short counterpart. This explanation may be convincing for Le where the new alternating pair became ă : ā; for Li, it seems less binding. However, it may be accepted if one takes into account that the alternation ĕ : ē obtained the form *e* : *ė* in Li where *e* is a very open sound acoustically close to ['a] and *ė* is very closed. Then the proportion

$$['a] : \breve{\bar{e}} = a : x$$

could have brought *x* close to ō. Most important in the comparison of Balt with Sl is the indisputable fact that ō and ā did not coalesce in Balt.

It follows from this brief survey that no other IE group took the same course as Sl in its development of ŏ̄ and ă̄. The common point of departure, the weak position of ă̄ in the phonemic and alternational systems of IE, provided for certain similarities. A fuller integration of ă̄ into the system by dissolving it in ŏ̄ or by dissolving ŏ̄ in it, was left to the independent development of individual linguistic units. About the possible ties of Sl and Indo-Irn in this respect see section 7.

3. Identification of ŏ̄ and ă̄. As Sl developed further, in its predivisional period $_{o}\bar{a} > \bar{a}$. CS $_{o}\breve{a}$ generally yielded ŏ : in most Sl languages in every position, in Br and (S)R under stress (so called *akan'e*). As the change $_{o}\breve{a} > o$ took place at the very end of CS, in its period of disintegration, it reached the eastern regions of the Sl world in a limited scope (See 26, 10). R orthography based on OCS tradition as well as the spelling tradition of NR (Novgorod) and U (Kiev, Galicia), does not reflect *akan'e* and may be used for identifying late CS *o*. But it does not indicate whether this *o* goes back to IE and early CS ŏ or ă, as shown in section 1; nor is this evident from *o* in the other Sl languages.

Consequently, the historically attested Sl languages may be used for ascertaining the reflexes of either ŏ̄ or ă̄, and for giving information about the original brevity or length of this vowel, brevity being reflected as *o*, length as *a*. The Sl languages which least altered *o* and *a* in the course of their development are most useful for such identification: SC in pronunciation and spelling, R, P, Sn M, Bg in spelling. But no Sl language can supply evidence of the original IE and early CS distribution of ŏ̄ as opposed to ă̄.

Only indirect evidence may be deduced from the participation of Mo Sl *o* and *a* in vocalic alternations. It is ŏ̄ which was involved to a large degree. But the reverse corollary cannot be inferred: every *o* and *a* not taking part in these alternations must not stem from ă̄. In many morphemes ŏ̄ either did not alternate at all or its alternants may have been lost before being recorded.

To establish if a certain vowel reflects IE and early CS ŏ̄ or ă̄ one must turn to the non-Sl IE languages, namely to those maintaining a distinction between ŏ̄ and ă̄: Arm, Gr, La, also Ce for short *o* and *a*, and Alb for long ō and ā. Gr and La, except in some special positions preserve ŏ̄ and ă̄ as such (Attic and Ionic

Gr has α > η); Arm retains ŏ, ă and ā, whereas ō > u. In Ce ŏ and ă are preserved as such; in Alb ō > e, ā > o. This may be presented in the following chart:

	Arm	Gr	La	Ce	Alb
IE and early CS ŏ	*o*	ο	*o*	*o*	
ō	*u*	ω	*ō*		*e*
ă	*a*	α	*a*	*a*	
ā	*a*	ᾱ(η)	*ā*		*o*

4. Examples. a) *o*: P *krokiew* 'rafter' – Li *krãkė* 'stick', Le *krakis* '(foot)stool', Gr κρόσσαι 'pinnacle';

OCS *oko* 'eye' – Li *akìs*, Le *acs*, OPr *ackis*, Gr ὄσσε (Nom du), La *oculus*;

OCS *ovьca* 'sheep' – Li *avìs*, Le *avs*, Gr ὄϊς, La *ovis*, Ir *ói*;

Cf. also OCS *domъ* 'house', *gostь* 'guest', *orьlъ* 'eagle', *osmь* 'eight', *xodъ* 'walk', *prositi* 'ask', *monisto* 'necklace'; R *tor* 'beaten track', etc.

b) *ă*: P *(wy)globić* 'hollow', Bg *glob* – Gr γλάφω;

R *tropá* 'pathway' – Le *trapa* 'pile', Gr ἀτραπός 'pathway', Alb *trap* 'small causeway';

OCS *otьcь* 'father' – Gr ἄττα, La *atta*, Ir *aite* 'foster father'.

Cf. also OR *olъ* 'beer'; R *onúča* 'cloth wrapped round feet in bastshoes', R *os'* 'axis', *óba* 'both', *kot* 'cat', *óstryj* 'sharp', *ovës* 'oats', *bog* 'god', *dóbryj* 'good', *more* 'sea', *sol'* 'salt', *von'* 'stink', *bob* 'bean', *smotrét'* 'look', etc.

c) *ō*: Cz *jaro* 'spring' – Gr ὥρα 'season, time', La *hornō* 'in this year' (< **hō-jōrō*);

R *skáred* 'miser' – Gr σκωρία 'dross';

OCS *dati* 'give' – Li *dúoti*, Le *dôt*, OPr *dāt*, Gr δίδωμι, La *dōnum* 'gift'.

Cf. also R *gasít'* 'extinguish', *dva* 'two', *pó-jas* 'belt', *nagój* 'naked', *znat'* 'know', *jásen'* 'ashtree', *jágoda* 'berry'; P *badać* 'examine'; prefix *pra-* as in R *práded* 'great-grandfather', etc.

d) *ā*: OCS *lajati* 'bark; curse' – Li *lóti* 'bark', Le *lãt*, Arm *lam* 'weep', Gr λαίειν 'utter a sound', La *lātrō* 'bark';

R *tájat'* 'thaw' – Arm *t'anam* 'water', Gr (Dor) τάκω 'melt, consume';

OCS *opaky* 'against', U *(na-v)paký* 'on the contrary' – Arm *haka-* 'opposite', La *opācus* 'shadowy'.

Cf. also OCS *tatь* 'thief', *bajati* 'tell'; R *kášel'* 'cough', *kal* 'excrements', *stat'* 'become', *brat* 'brother', *mat'* 'mother'; P *patrzyć* 'look', etc.

5. Loan words and toponyms. Sl borrowings from other languages, and Sl loan words as well as toponyms which penetrated from Sl into other languages or vice versa unequivocally confirm the coalescence of *ŏ* and *ă* in CS; they show that the vowel resulting from the coalescence was closer to *a* than to *o*; and, finally, they help establish the chronology of the coalescence. The evidence of loan words and toponyms in non-Sl languages is most abundant in outline areas of the Sl territory, where the Slavs had their liveliest contacts with other peoples. If this evidence is identical in all the outline regions of the Sl lands from the Fi reaches to Greece, it is obvious that the same situation prevailed in the center of the Sl territory, too.

A few examples will be cited here, proceeding from N westward and then southward.

a) Fe languages. The Fe languages contain numerous Sl loan words, some from the late prehistoric period. The most important studies which have collected

data and/or analyzed them are by Mikkola, Kalima, and Kiparsky. In their oldest Sl loan words, the Fe languages systematically render both Sl *ŏ* and *ă* as *a*, Sl *ō* and *ā* as *ā*, e.g.:

CS *ŏ*: Fi, Vot *akkuna* 'window', Est *aken* – cf. OR **okъno* (only spelling *okno* is extant, but the original ъ after *k* is warranted by U *viknó*);
Fi *kassa* 'hair', Kar *kašša*, Olon *kassu* 'plait' – cf. R *kosá* 'plait';
Fi *apea* (< **apeδa*) 'insult', Kar *abie*, Olon *abei*, Veps *abid* – cf. R *obída* 'offence';
CS *ă*: Fi *ahrain* 'fish spear', Kar *azrain*, Lud, Veps *azrag*, Vot *astraga* – cf. R *ostrogá* 'fish spear' (Cf. Gr ἄκρος 'upper');
Fi *papu* 'bean', SVeps *babu* – cf. R *bob* (La *faba* 'bean');
Fi *pakana* 'pagan', Olon *pagana-*, Veps, Est *pagan* – cf. OCS *poganъ* 'pagan' (from La *pāgānus*; the first *a* was shortened in VLa);
CS *ō*: Fi *saapas* 'boot', Kar *šoa̯ppoa̯*, Veps *sapag*, Vot *sāppaga*, Est *saabas* – cf. R *sapóg* (in alternation with *sopét'* 'sniff; inflate');
Fi *paattua* 'stick' – cf. OR *batogъ* 'club' (in alternation with R *bótat'* 'swing');
Fi *paasma* 'strand', Kar *poažma*, Olon *poa̯zmu*, Lud *puazm*, Veps *pazm* – cf. R dial *pasmo* (Cf. Le *puõsms* 'section of a fence');
CS *ā*: Fi *naatti* 'pot-herb leaves', Kar *noa̯t't'i*, Veps *nat'*, Vot *nātti*, Est *naat'* – cf. R dial *natína* (Cf. Li *notrẽ* 'nettle');
Fi *raamattu* 'Bible', Est *raamat* – cf. R *grámota* 'writ' (From Gr γράμματα 'letter'[1]).

In later loan words from R, the Fe languages have the same distribution of *o* and *a* as R and, basically, the other modern Sl languages. The Sl-Fe contacts which reflect the coalescence of *ŏ* and *ă*, *ō* and *ā* were probably made between the sixth and tenth centuries.

The evidence of OPr, collected and interpreted primarily by Trautmann and Milewski, is of lesser value because the sizeable records of OPr do not extend further back than the fifteenth and sixteenth centuries, and because the use of *o* was not typical of older Prussian. Nevertheless, at least in the case of short vowels, OPr had a choice to render Sl *o* as *a* or as *u* and the fact that only the first alternative was utilized with respect to both IE *o* and *a* proves that these vowels were both open and did not differ much, if at all, from each other. A few examples follow:

ŏ: OPr *abazus* 'cart' – R *oboz* 'string of carts' (Cf. Gr (ϝ)ὄχος 'cart');
maddla 'prayer' – P *modla* (Cf. *e*-grade in Li *meĩsti* 'request');
ă: OPr *prassan* 'millet' – R *próso* (possibly cognate of Gr πράσον 'leek');
sal 'salt' – R *sol'* (Cf. Gr ἅλς);
pastanton 'fast' – R *postít'* (From OHG *fasto*).

In regard to *ō* and *ā*, OPr testifies to their coalescence; but it represents them as *ō*, not *ā*. This seems to contradict our expectations. But it must be kept in mind that OPr *ō* is the continuation of an older *ā* or *oa*; to boot, at least in certain positions in the Samland dialect of OPr *ō* > *ū*, a change which never

[1] An assumption was launched, based on a comparison of the Fe languages, that the present day Fi *a* was originally a rounded vowel of the type ₒ*a* (Trubetzkoy, denoted *a̯*). If this is correct, it would agree completely with what is supposed to have been the character of the CS vowel in question.

occurs in Sl loan words. If this is taken into account, the OPr evidence will show indirectly that the late ₵S reflex of IE ō and ā was an open vowel close to ā. What precluded its rendition with OPr ā probably was the ₒ-on-glide of the Sl ₒā. It differentiated the vowel from OPr ā so that the two vowels could not be identified with each other. The examples are:

ō: *rokis* 'crawfish' – R *rak* (possibly with *e*-grade in Li *érkė* 'sheep louse'); *pore* 'vapor' – P *para* 'steam' (alternating with *e*: R *perét'* 'press'); *somukis* 'castle' – P *zamek*;
ā: OPr *moke* 'poppy' – R *mak* (Cf. Gr (Dor) μᾱκων[2]).

Contacts with German on the territory of present day Germany and Bohemia (Trautmann *et al.*) did not leave much data which would shed light on the character of CS reflexes of ŏ and ă. Reliable records do not go farther back than the thirteenth century, and until then Sl-German contacts were so close that Sl place-names in their G rendition easily followed Sl phonetic development. This is to say that G evidence in these areas as a rule does not reflect Sl pronunciation before the thirteenth century. However, cases of Sl *o* rendered as *a*, as e.g. *Dabele* (district of Wismar) < **Dob(e)l-*, *Patluse* (district of Segeberg) < **Pod(ъ)-lužьe* are not exceptional. If they belong to those villages and towns which were germanized at the beginning of G *Drang nach Osten* (started on a large scale in the ninth century), they might reflect some petrified Sl forms of place-names used in the ninth or tenth century.

In Bavaria and Austria (Štrekelj, Schwarz, *et al.*), where older sources are available, Sl ŏ is rendered as ă till the end of the ninth century, e.g. OBav *Rasa* (883–87) < Sl **rožь*, *Astaruniza* (860) < **ostrovinīca*, *Adamunta* (1005) < *vodomǫtъ*, (*Windiske*)*gaersten* (1125) < **-gorьščina* 'mountain region'. Sn loan words from OBav render G ă as *o*, e.g. *bọ́ter* 'godfather' < *givater*, *opih* 'celery' < *apfih*, etc.

There are numerous Sn and SC data showing how *o* and *a* of the Rom dialects of the Adriatic littoral were rendered in Sl (Skok *et al.*). Rom *a* in place-names and loan words is consistently rendered by modern Sn and SC as *o*, indicating that at the time of the first Sl-Rom contacts the Slavs had *a* (ₒ*a*): Sn *Oglej* < La *Aquileia*; SC *Osor* < La *Apsarum*, *Omišalj* < VLa **a musclu* (La *ad musculum*), *Košljûn* < La *Castellione*, *Kotor* < *Cattaro* (Gr Κάτταρος), *Prmantùra* < *promontorium*, *Plomin* < *Flan(aticus)*, SC dial *mògranj* 'pomegranate' < *mā(lum) grānātum* (In VLa the first ā was shortened). That Sl in Dalmatia had no ō is confirmed by the fact that La ō was rendered by the Slavs as ū (which later changed into *y* reflected in MoSC as *i*), e.g. in SC city-names *Sòlīn* < La *Salōna*, *Nin* < *Aenōna*, etc.

More systematic study and commentary has been made on Gr data (G. Meyer, Vasmer *et al.*) than on any other. It shows unambiguously that the Sl invaders of Greece did not distinguish ŏ from ă and ō from ā from the sixth to the

[2] Many of these words are usually treated as OPr borrowings from P. This is correct in the sense that they were borrowed from Proto-P and not from other dialects of CS.

mid-ninth century. Until that time all Sl place-names and common words borrowed by Gr consistently have *a*, never *o*. Later on, the differentiation of *o* and *a* is in accord with the historically attested Sl languages. Some examples:

a) Place-names: 'Αράχοβα < *Orěxovo* (region of Ioanina), 'Αρλίσκα < **Orьlьskъ* (to *orьlъ* 'eagle'; same region), Βάνια < **banja* 'bath' (Thessaly), Γαρούνα < **Go-(rynь)* (Corfu), Καρούτια < **koryto* 'river bed' (Thessaly, Phocis), etc.;

b) Common names: βάβω 'old woman' < *baba*; dial (Epirus, Peloponnesus) λάζος 'clearing' < *lazъ*; ζάκανον (Constantine Porphyrogenitus) 'law' < *zakonъ*; dial (Peloponnesus) καρούτα 'trough' < *koryto*, etc.

Sl contacts with the Hungarians are of a later date, commencing in the ninth century. However, the earliest Hung borrowings from Sl manifest the same principle in rendering both Sl *o* and *a* by *a*: Hung *ablak* 'window' < Sl **oblak-*, *asztal* 'table' < *stol-*, *bajnok* 'champion' < **bojьnik-*, *pap* 'priest' < *pop-*, *paraszt* 'peasant' < *prost-* 'simple', *udvar* 'court' < *dvor-*, etc.

Thus, one may infer that between the sixth and mid-ninth centuries the Slavs did not differentiate *o* and *a*; and the vowel used in place of *o* and *a* of both the earlier and later periods was of *a*-type. In the ninth century it split into *o* and *a* (See 26,7 and 9). Consequently, the *terminus ad quem* is established for the coalescence of early CS *o* and *a*, but not the terminus *a quo*. The cited materials do not enlighten as to when *o* and *a* first coalesced, except that it was not later than the fifth century A. D.

Fortunately, there is supplementary evidence which enables the student to shift this date at least a few centuries back. This comprises the earliest Sl borrowings from Germ, mostly Go. At the latest, Sl-Go contacts may be presumed since the first century B.C. The Goths acted as mediators in spreading La words to the Slavs. Linguistic borrowings from Go occurred primarily before 375 A. D. when the Gothic empire was destroyed by the Huns.

Early Germ *ă* in the historical Sl languages is regularly rendered as *o*, indicating that at the time of borrowing the Slavs had an *a*-type vowel: OCS *gonoziti* 'rescue' < *ganasjan*; *skotъ* 'cattle' < **skattaz* (Go *skatts* 'money'); *gobino* 'abundance' < Go *gabei* 'wealth'; *xǫdož(ьnikъ)* 'artist' < **handags* (*handugs*) 'wise'; *kotьlъ* 'kettle' < **katil(u)s* (gen pl *katile*), etc.

Germ *ā* is rendered in Sl as *a*, e.g. in the suffix (OCS) *-arjь* (as in OCS *mytarjь* 'tax collector') from Go *-āreis* (as in *mōtāreis*).

Most important in establishing the character of the Sl vowels that arose from the coalescence of *ŏ* and *ă* is the fact that Germ *ō*[3] is never rendered with *ā* nor *ō*. Its normal substitute in Sl was always *ū*. This shows that the Sl reflexes of IE *ō* was at that time too open a vowel to be identified with Go *ō*, in other words, that Sl had no *ō* at all. These old borrowings include, e.g. OCS *spyti* 'in vain' < **spoþi-* (OHG *spuot* 'hurry'), *do syti* 'enough' < **du soþa* (Go *soþa*

[3] There are no Sl borrowings with Go *ŏ*, which may be reliably referred to the early period of Sl-Go relations. Sl **murxy* (P *marchew* 'carrots', LS *marchwej*, US *morchej*) characteristically renders Germ *ŏ* with *ŭ*; but this borrowing probably belongs to a later period (OHG *morha*).

'satiation', dat sg); later, when the Sl diphthong ₒ*au* yielded *u* (See 19,1), this new *u* was used to render Germ *ō*, e.g. OCS *buk*(*ъvi*) 'letters' (pl) < Go *bōkōs* 'book' (pl), *Dunavъ* 'Danube' < Go **Dōnawi*, R *dúma* 'thought' < Go *dōms* 'verdict', etc.

The material of Go loan words in Sl thus makes it clear that the coalescence of *ŏ* and *ă* was completed in Sl about the first century B.C. but does not show how much earlier the coalescence may have occurred. For the relative chronology of the coalescence, see section 7.

6. Development of *o* and *a* in endings. In Sl declensional endings certain facts seem to, or actually do, contradict the above-mentioned conclusions regarding the coalescence of *ŏ* with *ă* and the antiquity of this coalescence. In the dat sg the IE ending for *o*-stems is reconstructed as *-oi*, for *ā*-stems as *ai*. If the two endings had merged phonetically we would expect identical ending in the two paradigms. But the endings are not the same, e.g. OCS *rabu* from *rabъ* 'slave' (*o*-stems) vs. *rabě* from *raba* (*ā*-stems). Hence, the contention that at least in the diphthongs *-oi* and *-ai* the vowels *o* and *a* did not coalesce. This conclusion is, however, unjustified. The masc ending *-u* by no means continues either *-oi* or *-ai* phonetically. Whatever its source, it is an intruder into the paradigm, due to an interplay of morphological factors. The identical development of *-oi* and *-ai* in *o*- and *ā*-stems is obvious from the loc sg (*rabě* from both *rabъ* and *raba*, in the first case from *-oi*, in the second from *-ai*), and in the nom-acc du of neuters and fem (OCS *selě* from *selo* 'village', with *-ě* < *-oi*, *rabě* from *raba*, with *-ě* < *-ai*).

A more serious objection to the antiquity of the coalescence of *ŏ* and *ă* can be raised if the ending of the nom-acc sg of *o*-stems is examined: OCS *rabъ*. IE "endings" (actually theme + ending) were *-os* and *-om*. To become *-ъ*, *-os* and *-om* should have passed through the stage of *-u*(*s*), *-u*(*m*). But the development of *o* toward *u* contradicts that toward *a*: the former involves stronger rounding and higher articulation of the tongue, the latter supposes abolition of rounding and lowering of the tongue. To salvage the situation one may suppose that in the final syllables before *-s* and *-m*, *o* changed into *u* prior to the general change *o* > ₒ*a*, so that when the general change of *o* occurred it could not spread to the final syllables of *o*-stems in these two cases. This assumption is not impossible but is hardly probable. An early change of *-os*, *-om* into *-us*, *-um* would mean that the difference between the nom-acc of *o*-stems and *u*-stems was eliminated. The consequence of that would have been an early merger of the two types of declension. However, although the earliest Sl records show a tendency to merge the two declensional types this did not proceed as far as would be expected if the fundamental forms of these declensions had coincided a millenium ago.

Nevertheless, the assumption that *o* changed into *u* in final syllables contains a grain of truth. It must be assumed that in the final syllables *o* changed into *u* before nasals, i.e. in one certain phonetic position. It is possible that this first took place when CS had a fixed stress so that, except for monosyllabics, all endings were unstressed. In any event it occurred before *ŏ* and *ă* coalesced. It may also be assumed that *ă* (but not *ā*) before a nasal consonant in final position followed suit, thus *ă* > *ŏ* > *ŭ* in this particular position. Narrowing of vowels before nasals in a closed syllable is a frequent phenomenon known in many languages. It is easily explained phonetically. But narrowing before *-s* would have no phonetic justification.

The posited change of *o* before -N is fully corroborated by the further development of Sl inflection. These are the forms involved:

Acc sg *o*-stems **orbom* > **orbum* > OCS *robъ* ~ *rabъ*;
Gen pl *o*-stems **orbom* > **orbum* > OCS *robъ* ~ *rabъ*;

Acc pl *o*-stems **orbons* > **orbuns* > OCS *roby* ~ *raby* ($y < \bar{u}$);
Nom sg *n*-stems **kāmōn* > **kāmūn* > OCS *kamy*;
1 sg aor **nēs-s-om* > **nēsum* > OCS *něsъ*;
Pron 1 pl **nons* > **nuns* > OCS *ny*;
Acc pl *a*-stems: **orbans* > *orbuns* > OCS *raby*[4].
The acc sg of *a*-stems which supposedly ended in *-ām*, and in OCS in *-ǫ* (as well as 1 sg pres in *-ǫ*, e.g. *berǫ* 'take', whether the underlying form was *-ōm* or *-ām*), neither confirms this statement nor contradicts it. CS *ǫ* developed from *o*N, *a*N and *u*N (On details and chronology see 22, 12).

Morphologically, this meant that *o*- and *u*-stems obtained the same endings in the acc sg and pl resp. but not in the nom sg and pl, so that *u*-stem paradigm preserved more independence. The later transference of *-u-* from the ending of the acc sg into the nom sg was predominantly a morphological phenomenon, comprehensible if considered in connection with the interplay between masc and neut that took place in CS after the latter dropped its final consonants (See 15, 2). These processes may be only briefly outlined in this chapter. The point of departure was

	Nom sg masc		Acc sg masc		Neut
	o-stems	*u*-stems	*o*-stems	*u*-stems	(*o*-stems)
(1)	*-os*	*-us*	*-om*	*-um*	*-o(d)*

After the phonetic change *o* > *u* in final syllables before nasals, the scheme became:

(2)	*-os*	*-us*	*-um*	*-um*	*-o(d)*

After the change *o* > $_o a$ and the loss of final consonants (both nasals and *s*) it became:

(3)	$-_o a$	*-u*	*-u*	*-u*	$-_o a$

Subsequently, $-_o a$ of *o*-stems, masc, was to coalesce with $-_o a$ of *o*-stems, neut, and in the general regrouping of forms caused by a tendency to keep neut and masc separated, $-_o a$, in masc, was replaced by *-u* taken from the acc of *o*-stems as an attempt to introduce symmetry into the relations of these forms in *u*- and *o*-stems:

-u (acc sg, *u*-stems): *-u* (nom sg, *u*-stems) = *-u* (acc sg *o*-stems): x,

with x (nom sg of *o*-stems) being equal to *-u*. Chronologically, this means that *-u* in the nom sg of *o*-stems appeared much later than the change *-o*N > *-u*N and even than the coalescence of *ŏ* with *ă*, and this late chronology accounts for the relatively good preservation of the *u*-type declension in the oldest Sl records.

7. Relative chronology and historical background. Examination of Sl borrowings and Sl loan words in the adjacent languages (Section 5) enables one to establish that at the latest *ŏ* and *ă* coalesced in CS in the first century B.C. In terms of relative chronology, this coalescence is usually placed after the split of syllabic sonants into *i*S and *u*S and the rise of phonemic pitch in Sl because the latter changes were Balto-Sl while the coalescence of *ŏ* and *ă* was more independent. In addition, one finds a loose internal connection between the coalescence of *ŏ* with *ă* and the loss of syllabic sonants. Just as after the rise of

[4] In the acc pl of *o*- and *a*-stems, the development varied dialectally after *j*. See 18,3 and 22,13.

*i*S, *u*S and the concomitant development of the alternations *i* : *ī*, *u* : *ū* the vowels *i* and *u* acquired the status of full-fledged vowels the possibility of reducing the vowel system became easier. The system eliminated whatever members participated minimally in the vowel alternations: *ă* and *ā*. Another circumstance which possibly led to the curtailment of vowels was the fact that the rise of phonemic pitch in Sl doubled the number of long vocalic phonemes.

Comparison with similar developments in other IE languages (Section 2) showed that coalescence of *ŏ̄* and *ă̄* in Sl was an independent change. No other IE language or group of languages realized it in the same scope and with the same results. The greatest resemblance is found between Sl and Indo-Irn. It is in these two groups that *ŏ̄* and *ă̄* coalesced completely in an *a*-type vowel. If the virtually identical coalescence of *ŏ̄* and *ă̄* in the two linguistic groups was not a mere coincidence of the parallel but independent developments, if it was conditioned or stimulated by historical contacts between the bordering tribes of the two groups, coalescence of the two vowels may be ascribed to the area and time of early Sl-Irn contacts, i.e. Scythian and later Sarmatian impact on the Slavs, commencing in the seventh century B.C. This hypothesis is, of course, but a mere speculation; however, it agrees well with the geography of the change in general. If it is assumed that the center of radiation of the coalescence for Eastern Europe was in the steppes north of the Black Sea, it will be understandable why the change was most complete in Indo-Irn, weaker in Sl where it did not encompass *e*, and still weaker in Balt where it only covered short *o* and *a*.

If this view is accepted, it is possible to state that the Sl-Balt common development ceased or weakened at the time of Sl-Scythian contacts (See 5,12). It also enables the student to posit tentatively that the coalescence of *ŏ̄* and *ă̄* occurred approximately within the same period in Sl when *x* developed from *s* (See 7,2). There are no internal links between these two developments but they hold in common the fact that both, although independent in Sl, have similar but not quite identical parallels in Irn.

8. Conditions and effects. The circumstances which enabled coalescence of *ŏ̄* and *ă̄* in CS were formulated in the preceding sections: an overgrowth of vowel phonemes after the rise of phonemic pitch; the importance of vowel alternations which grew more significant after the loss of syllabic sonants, and the peripheral position of *a*, a non-participant in the normal type of alternations; and, in addition, possibly an external push delivered through the influence of the Irn tribes that established contacts with the Slavs from South.

The coalescence of *ŏ̄* and *ă̄* simplified the CS system of both monophthongs and diphthongs. The triangular system of the period before the coalescence (intonations not taken into account)

ĭ̄   *ŭ̄*
ĕ̄   *ŏ̄*   *ei*   *oi*   *eu*   *ou*   *er*   *or*   *el*   *ol*   *e*N   *o*N
ă̄   *ai*   *au*   *ar*   *al*   *a*N

became, after the merger, a four member system of monophthongs and a two member system in each type of diphthongs:

ĭ ŭ
ĕ $_{o}$*ă* *ei* $_{o}$*ai* *eu* $_{o}$*au* *er* $_{o}$*ar* *el* $_{o}$*al* *e*N $_{o}$*a*N.

The lack of phonetic symmetry between *ĕ* and $_{o}$*ă*, the former being a simple monophthong and the second a monophthong preceded by a heterogeneous on-glide, demanded a further phonetic change of either *e* or $_{o}$*a* (See 11,1). Otherwise, this vocalic system was to last a long time, about a millenium, until an imbalance was caused by drastic changes in the system of CS consonants (See 13,1; 17,4; and 19,7), although these changes in consonants were generated, in the long run, by no more than the same changes in vowels examined in chapters 4, 5, 10, and 11.

9. Preliminary notes on Slavo-Romanian contacts. One more important source of evidence for ascertaining the character of the CS vowel which resulted from the coalescence of *ŏ* and *ă* is the Rm language. The nature of this source, however, is specific and to use it correctly it is necessary to examine the rise of Rm and its relations with CS. Since Rm evidence is important to many other problems of CS phonology as well, a brief digression is appropriate.

Romanization of the Balkan peninsula began with its conquest by the Roman troups, reaching its zenith in 107 A.D. when present-day Romania, at that time Dacia, was occupied by the legions of Emperor Trajan. The original Ill and Thra population of the peninsula was engulfed by the new trend of Romanization except for certain groups of varying size, from which one later emerged as Albanians (with numerous Latinisms in the language). Only the Greeks with their high level of civilization resisted this denationalization and preserved their identity. Otherwise, in an apparently short time the population, regardless of its racial origin, Illyrians, Thracians, or Roman soldiers and settlers, became to a great extent uniform linguistically, i.e. Latin, developing gradually a special subtype of VLa, its Eastern European version.

Dacia itself was given up by Emperor Aurelian in 271 A.D. under the pressure of the Goths and other Germ tribes. The Danube became the border between the Roman empire and the barbarians. Numerous settlers had to leave Dacia; in particular, city dwellers probably fled the country completely, and its urban tradition was discontinued. Whether the scattered rural Roman population remained dispersed in the country under the new conquerors, or the country was later resettled by Romanians from the south is a matter of speculation for want of historical documentation, and has little or no bearing on the subject of Sl-Rm linguistic relationships.

Occasional contacts between the Roman population of the Balkan peninsula and the Slavs probably go as far back as the fourth century A.D. but they assumed a broad scope and momentum only at the very end of the fifth and in the sixth centuries when the "accursed people" of the Slavs (in the words of a Syriac chronicler, John of Ephesus) invaded the Balkans, wave after wave, down to the Peloponnesus and Crete, mercilessly ruining and pillaging whatever they encountered but also settling permanently in the new areas.

The Latin speaking population was not blotted out by the Slavs, nor was it deromanized in its language, but it was greatly dispersed. The major result of the Sl incursions was the destruction of the national and linguistic boundaries. If an ethnographic or linguistic map of the Balkans of that time existed, it would not have any uniformly colored large surfaces, but instead its character would be that

of a mosaic inlaid with tiny pieces. Sl speaking people lived side by side with Rom speaking (as well as the remnants of those who spoke the pre-Romance languages of the area). It took several centuries for centers to crystallize, where one particular language would prevail. If present day Romania emerged in the Middle Ages as predominantly Rm in its language, it is not because it had been settled by the Romans alone, but because in the course of mutual Sl-Roman influences the Roman speech conquered; and if present day Bulgaria emerged as a Sl speaking country in the Middle Ages, it is not because the Roman speaking population inhabiting the area before the Sl invasions was expelled or annihilated physically, but because Sl overcame Roman during a prolonged period of competition. Sl was absorbed into Rm in Romania, and Rom was absorbed into Sl in Bulgaria.

The prevailing character of the Sl thrust is shown by the fact that the Rom dialects have reemerged in the Balkans in historical times filled with Sl words and syntactic constructions, while the number of Rom words and syntactic constructions in the Balkan Sl languages is much lower. However, the Rom imprint is deeply ingrained in the very structure of such languages as Bg or M, along with pre-Roman influences (problem of the so-called Balkanisms). Statistically, any evaluation of Sl elements in Rm vocabulary is vulnerable but if the Latinisms deliberately reintroduced into Rm in the modern period are discounted, the Sl vocabulary in Rm would amount at least to one third. This does not result from the influences of an adjacent people alone, but rather from the coexistence of the Roman and Sl speaking population for several centuries. A large part of population in these areas must have been bilingual for a long period of time. This was a typical case of coterritorial languages, not just contiguous.

A further testimony of the once ubiquitous character of the Rom language(s) in the Balkan peninsula is that Rm as such was crystallized not only in present day Romania north of the Danube, but in three other areas some distance from Romania, having different dialectal shape of course but still undoubtedly identifiable as dialects of basically the same language: besides Daco-Rm of Romania, there are Aromunian in Macedonia; Megleno-Rm in the area of Salonica; and Istro-Rm in Istria, almost completely extinct today.

The entire linguistic development of the Balkan peninsula after the Sl invasions and settlement is in a sense a development from coterritorial languages, through the crystallization of nations, to adjacent languages. But even today the original ethnographic and linguistic patchwork as created by the influx of the Sl barbarians is not completely obliterated.

The original coterritorial character of Sl-Rm linguistic relationships entails important considerations with respect to the utilization of Rm data for Sl historical phonology. These data should be used differently from those of Fi, OPr, Germ, or Gr as cited in section 5. There we dealt with contiguous languages. A word once borrowed from Sl (or into Sl) was by the same token taken from its original language and all its connections with the language of its provenance were severed. This is not true of coterritorial languages where the contacts continue and, under the condition of general or widespread bilinguality, a Sl word borrowed by Rm was not necessarily excluded from further Sl evolution. If, for example a Sl word *r_oak_oas was used by Rm speakers in this form and then subsequently, in Sl it obtained the forms *r_oakus > *r_oaku > *rakъ* > *rak*, the bilingual speakers would follow this development, and finally, this word would be found in Rm in the form *rac* [rak] 'crowfish', its present form existing approximately from the tenth century.

This accounts for a striking, and at the first glance, bewildering fact: on the basis of what we know from history we should expect Sl loan words in Rm since the sixth century: but the Sl loan words found in Rm as a rule have the Sl form of the ninth or tenth century at the earliest. The conclusion drawn by some scholars that the earliest borrowings were actually made in the ninth century was too hasty. Many Sl words in Rm appearing as tenth-century words were borrowed much earlier,

but their Sl phonetic development was not arrested due to borrowing. To determine which words belong to the oldest strata of borrowings is impossible in most instances because of the lack of evidence: major Rm texts were not written before the sixteenth century, and by that time Rm and Sl were, in principle, adjacent languages and no longer coterritorial.

The practical effect of this character of Sl-Rm linguistic relationships in the sixth and a few subsequent centuries is that in most cases individual Rm words of Sl origin cannot be used to present the state of Sl at that time. This is possible only in those cases in which some special factor contributed to the exclusion of the word in question from being treated as Sl and, because of this, from being subject to the changes it was exposed to in Sl. This is probably the case of Rm *sútă* 'hundred'. It seems to be the only Rm word taken from Sl in which CS *ŭ* is rendered as *u*. In Sl itself it later became ъ, a vowel of the type of Rm *ă* or *î*, and still later in some positions *o*; hence, its reflexes in Rm: *bîtă* 'stick' based on CS **but-* (SChSl *bъtъ* 'rod, baton'), *vîrtop* 'gorge' based on CS *virtup-* (OCS *vrьtъpъ* 'cave'). The reason for the arrested development of *u* in *sută* was probably its high usage frequency which made it too familiar to Rm speakers, and possibly later, when *jers* lost their stressability, the transference of the stress in Sl from the initial syllable onto the final. This made the ties between the word in Rm and its Sl model particularly weak.

Thus, the tempting idea of taking a Rm dictionary and finding some Sl words in their sixth century form must be given up. Moreover, Rm is in this respect much less useful than Fi or Gr which contain many fewer Sl loan words; in fact, Rm is rather useless from that point of view. And yet its contribution to the reconstruction of CS is extremely valuable because in certain cases it shared its very development with Sl. This is again only natural under the conditions of coterritoriality and bilinguality. Certain habits of Sl speech were superimposed by the bilingual speakers onto their own Rom language or brought into the latter by the Romanized Sl speakers. Certain Sl innovations also spread into Rm.

These two developments must be strictly separated: transference of certain Sl features which had arisen before the Sl-Rm contacts, sometimes very ancient; and innovations made in common by both Sl and Rm in the period of Sl-Rm coterritoriality. In the first case, Rm was only a receiver; in the second case reciprocal impregnation took place. In neither case should the Sl-Rm community be exaggerated. Rm was and remained a Rom language. It accepted only those Sl speech habits and shared only those innovations compatible with its own structure. At this point it must be emphasized that its structure was in many respects different from CS. CS at that time was a language having phonemic quantity of vowels and pitch opposition on long vowels, with predominantly open syllables and a tendency to eliminate consonantal clusters. Rm was a language with dynamic stress (Phonemic quantity of vowels was lost as early as VLa), easily admitting consonantal clusters, and tending to reduce unstressed syllables. Hence, even in cases of common developments, Rm as a rule did not just imitate or follow Sl. It adopted Sl features or innovations to its own structure. Within these limits, however, the interpenetration of the two languages and the Sl imprint on Rm and its further development were substantial. It was observed long ago that all the phonemes Rm developed after its separation from La are common to Sl: ə and *y* (spelt *ă*, *î*), *c*, *ʒ*, *č*, *ǯ*, *š*, *n'*, *l'*, *r'* (Petrovici), *ea* (Rosetti); and ₒ*a* is to be added.

It is in the light of these general remarks that the problem of ₒ*a* in Rm, with relation to Sl ₒ*a*, may be understood correctly.

10. Romanian evidence for the character of the vowel resulting from the coalescence of *ŏ* and *ă*. In Sl *ŏ* and *ă* coalesced. In Rm they remained separate, even after contacts with the Slavs. The reason is that Sl had a surplus of vocalic phonemes owing to the rise of phonemic pitch while Rm even abolished distinc-

tions in quantity of vowels. Coalescence of *o* and *a* would have had destructive effect on Rm. And yet the Sl pronunciation *ₒa* proved to be "contagious" to the coterritorial Rm speakers. They adopted it to implement a special tendency of Rm which may be called anticipative: the tendency to concentrate the most important characteristics of the word at its beginning. In Rm *o* > *ₒa* before *-a* of the next syllable[5]: La *sōlem* > **sora* > **sₒara* (Mo Rm *soáre* 'sun'), La *rotam* > *roată* 'wheel', etc. Phonetically this is an instance of regressive distant assimilation; as a rule *-a* characterized the word grammatically; the introduction of *ₒa* in the initial syllable allowed the anticipation of the presence of *-a* in the next syllable and, thus, to a certain extent took over the grammatical characterization of the word.

While in words of La (and Thra) origin *ₒa* was expanded in place of original *o*, its use in Sl words was limited to this position, where it is preserved until today, e.g. *coájă* [*kₒažə*] 'bark, peel' vs. OCS *koža* 'skin', *coásă* 'scythe' vs. Bg *kosá*, *poálă* 'bosom' vs. Bg *polá* 'skirt', *sloátă* 'slush' vs. SC *slȍta*, *groáză* 'horror' vs. OCS *groza*, etc. Cf. also *boálă* 'sickness' whose Sl model possibly did not have *-a*: OCS *bolь* 'patient', R *bol'* 'pain' (but M and Bg *bólka*). Otherwise, Rm follows the distribution of *o* and *a* in late CS and the historically attested Sl languages in its Sl loan words as in *rac* 'crowfish' vs. *pod* 'bridge', cf. Bg *rak*, *pod* 'floor'. The occurrence of *ă* [ə] in place of what in Mo Sl is *o* is due to Rm reduction in unstressed position, or follows from the requirements of the Rm grammatical system (in endings), e.g. *năsălíe* 'stretcher', *císlă* 'imposition of poll-tax' vs. Bg *nosílka*, *čisló* 'number'. These cases cannot be used as evidence of how the "predecessor" of Mo Sl *o* was pronounced in the sixth century.

Historians of Rm agree that the introduction of *ₒa* was not required by the ORm phonemic system. It was adopted from Sl, but adapted so that it was incorporated in the tendencies of Rm phonology and morphology. It was introduced from Sl after the sixth and not later than the ninth century, because at that time it went into disuse in Sl itself. For the history of Rm comparison with Sl supplies the approximate chronology of when *ₒa* was introduced. For the history of Sl, it does not furnish any chronological evidence: *ₒa* in Sl existed, no doubt, before the first Sl-Rm contacts. But it confirms that the vowel resulting from the coalescence of IE and early CS *ŏ* and *ă* had a definite character: that of *ₒa*.

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[5] In Mo Rm it is before *a*, *ă* and *e* but in Proto-Rm it was probably only before *a*.

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Literature on Sl-Rm prehistorical relations is vast. The selected items are listed in the bibliography to chapter 35.

11. NEW PHONETIC VALUE OF ē̆

1. General statement. 2. Area. 3. Identification of $_{e}$*a*. 4. Examples. 5. Loan words and toponyms. 6. Romanian evidence. 7. Scattered cases of *ē* reflected as *a* in Slavic. 8. Vacillations *re* ~ *ra*. 9. Vacillations *je* ~ *ja*. 10. Chronology and historical background. 11. Conditions and effects.

1. In the same period of time as that in which *ō̆* and *ā̆* coalesced in $_{o}$*ā̆* the phonetic value of *ē̆* changed. It may be assumed that *ē̆* changed into $_{e}$*ā̆*, i.e. a vowel of more open and back articulation but preceded by an on-glide which preserved the original *e*-type articulation. The on-glide differentiated this vowel from $_{o}$*ā̆*, while the core of the vowels was identical or nearly identical (Phonetically $_{e}$*a* could have been [$_{e}$æ]). The phonemic status of *ē̆* was not affected by its change to $_{e}$*ā̆*.

The phonetic value of *ē̆* was altered in every position. The only exception seems to be the ending of the nom sg in *r*-stems, IE *-ēr* represented in Sl by *-i*: OCS *mati* 'mother', Br *máci*, U *máty*, Cz *máti*, Sn *máti*, SC *màti*. This would imply a possible narrowing of *ē* before *-r* (*-r* being lost later) in final syllables. But the material is insufficient to make this or any other positive statement. Fem *r*-stems are represented in historically attested Sl by only two subst, the above cited OCS *mati* and OCS *dъšti* 'daughter'. (Cf. 15, 2). The consensus of scholarly opinion is that in these words *-i* is not the result of any phonetic development of *ē* but is rather due to morphological leveling, viz. with subst fem in *-ī*, the type of OCS *rabyni* 'slave'. The leveling was supposedly facilitated by the isolated position of the subst in *-ē* in the declensional system of CS. This explanation is plausible as a hypothesis but the question remains open.

Long $_{e}$*a* has traditionally been denoted in Slavistics by *ě* (and known as *jat'*). Although there is no corresponding term for the short counterpart of *ě* this somewhat unsystematic usage will be followed. The short vowel will be generally denoted as *e* or *ĕ*; but it must be recalled that its phonetic type was $_{e}$*ă*. When the phonetic composition of the vowels *ě*, *e* must be stressed, the denotation $_{e}$*ā*, $_{e}$*ă* will be used. Thus, the denotations *ě* and $_{e}$*ā*, and respectively, *e* and $_{e}$*ă* are interchangeable and refer to the same two vowels.

2. Area. The Sl tendency toward open pronunciation of *ě* and *e* was shared with Indo-Irn where the two vowels became *ā* and *ă*, coalescing with IE *ō*, *ā* and *ŏ*, *ă* respectively. Li has very open reflexes of *e* close to *a* but *ē* gave *ė*, a closed vowel: *dẽšimt* 'ten' [d'ä-] vs. *dė̃ti* 'put' [d'ẹ-]. Conversely, Germ tended toward open pronunciation of *ē*.

Thus, the Sl development was closest to Indo-Irn but never went so far as

to transform *e* into *a*. On the whole the change of *ě* proceeded independently in Sl.

3. Identification of $_{e}\breve{a}$. CS *e* can be identified from Sl as well as from non-Sl IE languages. In Sl, if individual deviations are disregarded, *e* is reflected as *e* in Sk, Cz, Sn, SC, M, and Bg, and orthographically in R as well. In most of these languages, however, *e* continues *ě* and *ĭ* (ь) also, therefore *e* does not enable one to discriminate between reflexes of *e*, *ě* and *ĭ*. Only in jekavian SC, where *ě* >*ije* or *je* and *ĭ*>*a*, is such differentiation immediately possible. Hence, e. g. while R has indiscriminately *désjat'* 'ten', *délo* 'affair', *den'* 'day' from *de*-, *dě*- and *dь*-, jekavian SC has *dȅset* with *e*, but *djȅlo*, *dân*. In non-Sl IE languages *e* is identifiable from the correspondence of Li and Le as well as Arm, La, Ce, and Hi *e*, Gr ε, while Indo-Irn has *a*, and Germ mostly *i*.

As for *ě*, it can be identified in Sl after hushing consonants where as a rule all Sl languages reflect it as *a*, e. g. R *čas*; however in certain cases Sl *a* in this position may go back to CS $_{o}\bar{a}$ (See 17,6). A special reservation must be made concerning P, US and Cz which in certain cases have *e* in place of the expected *a* from *ě*, e.g. P *slyszeć* 'hear', US *slyšeć*, Cz *slyšeti* vs. R *slýšat'*, SC *slȉšati*, etc. In other positions, again *ě* may be immediately identified only in jekavian SC where it appears as *ije* if long, and *je* if short, e.g. *bijèla* 'white' (fem), *djȅlo*. Nevertheless, although jekavian SC warrants CS *ě*, it does not show whether this *ě* developed from IE *ē* or is of another, later origin (See 20, 1). Therefore, the evidence of non-Sl IE languages must be used to confirm that *ě* actually stems from IE *ē*. The counterparts of *ě* from *ē* are *ē* in Gr (spelled η), La, and Germ; in Li IE *ē* is reflected as *ė*, while Indo-Irn has *ā*, Arm *i*, and Ce and OPr mostly *ī*.

The chart below gives a general idea of the set of Sl reflexes of *e* and *ě* (of whatever origin, i. e. not only from IE *ē*), again without considering particular deviations in specific phonetic environments:

IE	R	Br	U	P	LS	US	Pb	Sk	Cz	Sn, SC (Ekav), M	Bg
e	*e/o*	*e/a/o*[1]	*e/i/o*[2]	*e/o*[3]	*e/o/a*[4]	*e/o/ě*[6]	*i/e*[8]	*e*	*e*	*e*	*e*
ē	*e*	*e/a*	*i*	*e/a*	*ě/(j)e*[5]	*ě/je/y*[7]	*o/e*	*e/ie*	*e/i*	*e*	*e/a*[9]

1) *o* after hushing consonants under stress before hard consonants, *a* in unstressed position: *šèsc'* 'six', *šósty* 'sixth', *šasci* 'six' (gen).

2) *i* in closed syllables, *o* after hushing consonants and *j*, not before a syllable with original front vowels: *šist'* 'six', *šestý* (gen), *šóstyj* 'sixth'.

3) *o*, *a* before hard dentals: *miotać* 'throw', *miara* 'measure'.

4) *o* before hard consonants; *a* before newly hardened consonants (*s*, *z*, *c*, *š*, *ž*), also with some overlapping with *ě*: *sotša* 'sister', *mjod* 'honey', *wjacor* 'evening'.

5) (*j*)*e* mostly in syllables following the root (after the first root in compounds): *wěra* 'faith', *cłowjek* 'man'.

6) *o* after hardened consonants and *l* before hard consonants; *ě* in newly closed root syllables: *sotra* 'sister', *pěc* 'stove'.

7) *je* as in LS; *y* after *z*, *s*, *c*: *wěra* 'faith', *čłowjek* 'man', *cyły* 'whole'.

8) *i* before soft consonants and in final position: *sist* 'six', *jojí* 'egg'.

9) *a* before hard consonants under stress: *djádo* 'grandfather', pl *dedí*. As late as the twelfth century some Bg dialects preserved an *a*-type pronunciation of *ě* in all positions. Grigorovič's *Pareomia* systematically renders *ě* as *a*.

4. Examples. a) *e*: OCS *vetъxъ* 'old', R *vétxij* 'decrepit', P *wiotchy*, Sk, Cz *vetchý*, SC *vètah*, M *vetov*, Bg *vétəx* – Li *vẽtušas*, Le *vecs* 'old', OI *vatsás* 'yearling', Gr (ϝ)έτος 'year', La *vetus* ~ *vetustus* 'old';

OCS *stenati* 'moan', R arch *stenát'*, Sk *stenat'*, Cz *stenati*, Sn *stenjáti*, SC *stènjati*, Bg *sténja* – Li *stenëti*, Le *stenêt*, OPr *stīnons* (part act) 'suffered', OI *stánati* 'thunder', Gr στένω 'moan', ON *stynja*;

OCS *medъ* 'honey, mead', R, Br *mëd*, U *med*, P *miód*, LS *mjod*, US *měd*, gen *mjedu*, Pb *medái* (medäu, gen sg), Sk, Cz *med*, Sn, SC *mêd*, M, Bg *med* – Li *medùs*, Le *medus*, OPr *meddo*, OI *mádhu*, Av *maδu-* 'honey, wine', Gr μέθυ 'strong drink', Ir *mid* 'mead', OHG *metu*.

b) *ē* after hushing consonants: OCS *čarъ* 'sorcery', R, Br *čáry*, U, Bg *čar*, P *czar*, Sk *čary*, Cz *čár*, Sn *čára*, SChSl *čari*, M *čarolija* 'magic' – Av *čārā-* 'means'; with other alternation grades: Li *kẽras* 'sorcery', OI *kr̥ṇóti* 'make', Cym *peri*;

R *žar* 'fever; embers', Br, U *žar* 'embers', P *żar* 'heat', Sk *žiar*, Cz, M, Bg *žar*, Sn, SC *žâr* – < *g^{w}'ēr- (Cf. R *gorét'* 'burn', etc.); with other alternation grades: Le *garme* 'warmth', OPr *gorme* 'heat', OI *háras* 'glowing heat', Arm *ǰerm* 'warm', Gr θερμός, La *formus*;

for more examples and important reservations concerning *a* after hushing consonants, see 17,6.

c) *ē* in other positions: OCS *mě-r-a* 'measure', R, Br *méra*, U, Cz *míra*, P *miara*, LS, US *měra*, Pb *ḿoró* (mioró), Sk *miera*, Sn *méra*, SC jekav *mjȅra*, M *mera*, Bg *mjára* – OI *mā́-ti* 'measure', Gr μῆ-τις 'advice', Alb *masë* 'measure', La *mē-tior*, Go *mē-la* 'bushel'; with other grade Li *mẽ-tas* 'year';

OCS *věјati* 'blow', R *véjat'*, Br *véjac'*, U *víjaty*, P *wieję* (1 sg), LS *wěju* (1 sg), US *wěć*, Sk *vejem* (1 sg), Cz *věji* (1 sg), Sn *vêje* (3 sg), SC *vȉjati*, M *vejne*, Bg *véje* (3 sg) – Li *vějas* 'wind', Le *vējš*, OI *vā́ti* 'blow', Av *vāiti*, Gr ἄ(ϝ)ησι, Go *waian*;

OCS *děti* 'put', R *det'*, Br *dzec'*, U *díty*, P *dzieje się* 'occur' (3 sg), LS *źeju* 'do' (1 sg), US *dźeć*, Sk *deje sa* (3 sg), Cz *díti se*, Sn *déti* 'put', SC jekav *djȅti*, M *dene*, Bg *djána* – Li *dėti*, Le *dēt*, OI *dádhati* 'seat', Av *daδaiti*, Gr τίθημι, La *fēcī*.

Further examples: OCS *věra* 'faith', *sěmę* 'seed', *męsęcь* 'moon', *tělo* 'body', *spěti* 'advance', *běgati* 'run', *pěšь* 'pedestrian', *sěděti* 'seat', *zvěrь* 'animal', R *ded* 'grandfather', etc.

5. Loan words and toponyms. As in the case of *₀a*, the analysis of loan words and toponyms borrowed by Sl from the languages of adjacent peoples and vice versa supplies a vast amount of material shedding light on the original pronunciation of *ě*. There is much less evidence for *₀ă*.

If the river-name OR *Dъněprъ* (R *Dnepr*, Br *Dnjapró*, U *Dnipró*) goes back to Irn **don-äpr-* 'river of the rear' as supposed, Sl *ě* renders an [æ]-type vowel.

Fi *Ilmajärvi*, Est *Ilmjärv* is rendered in OR as *Ilměrь* (Laur), Mo R *Il'men'*, lake-name; Fi *Karjala* 'Karelia', *Karjalainen* 'Karelians', cf. ON *Kariálaland*, in OR appears as *Korěla*. R *samoéd* 'Samoyede' interpreted by folk etymology as having two Sl roots *sam-* and *ěd-* points to *ě* as the third vowel in the word (spelt *Samojadь* in Pr Chr, 1096); it comes from Lapp *Sāme-œnà* 'Lapland'. OR *Seregěrь*, lake-name (Mo R *Seligér*) is based on Est *Särgjärv*, Fi *Särkijärvi*.

In the oldest Fi words of Sl provenance *ě* is also rendered as *ä* or *ₑa*-type diphthong:

Sl *měra* 'measure' – Fi *määrä*, Kar *meärä*, Olon *meärü*, Lud *miär*, Veps *ḿär*, Vot *mārā*, Est *määr*;
Sl *xlěvъ* 'cattle shed' – Fi *läävä*, Kar *leävä*, Olon *leävü*, Lud *l'iäv*, Veps *lävä*;
Sl *grěxъ* 'sin' – Fi *räähkä*, Kar *reähkä*, Olon *reähkü*, Lud *griähk*;
R *seža* 'fish trap' (< *sěža*) – Est *sääs*.

In later loan words Fi substitutes *e* or *ie* for Sl *ě*, in accord with its later R phonetic value.

Fi furnishes information pertinent to the pronunciation of Sl *e* (*ₑă*), too. In the oldest loan words it is rendered with *ä* [æ]; in terms of the Mo R phonetic pattern this sound in closer to *a* in *pjat'* 'five' than to *e*. Examples of *ä* for Sl *e*:

Sl *pečь* 'stove' – Fi *pätsi*, Kar, Olon, Lud *pät't'śi*, Veps *pät'š'*, Est *päts* 'baking oven';
Sl *ležati* 'lie' – Fi *läsiä*, Kar *läzie*, Olon *läžie*, Veps *l'äžuda*, Est *läsida* 'be sick';
Sl *nedělja* 'week' – Est *nädal*.

Prehistoric borrowings from Fe to Sl of words with *e* are not so numerous, however they also point to a very open Sl *e* (*ₑa*). Fe *a* is rendered as Sl *e*, e.g. in OR *Mérja*, Fe tribal name, from *Mari* (*mare* 'man').

Le and Li evidence is not as obvious owing to peculiarities in the historical development of their vowel systems. Nevertheless, some conclusions regarding the phonetic value of late CS *ₑă* may be drawn from these languages as well. Sl *e* is rendered in the oldest Li borrowings as *e*, i. e. ['æ] or even ['a]: *kúmetis* 'agricultural laborer paid in kind' from **kumet-* 'peasant'; cf. also Li *šálmas* 'helmet' from Sl **šelm-*. As for *ě*, in the oldest Li borrowings it is rendered as *ie*: *diẽdas*, from *děd-* 'grandfather', *svíetas* from *svět-* 'world'. As mentioned in 11, 2, Li did not possess any open long vowel of *e*-type. Therefore, the open quality of Sl *ₑā* was to be disregarded; but Li rendered the diphthongal character of the Sl vowel. In later Br or R loan words, Li has *ė* in place of *ě*. In Le the closed or open pronunciation of *ē* depends to a large extent on the presence or absence respectively of front vowels in the next syllable. An open pronunciation of *ē* in the Upper Le dialects on the one hand, and the rendition of even Sl (R) *'a* (or *'ą*) as open *e* (*svęts* < *svjatъ* 'holy') on the other, show that the close pronunciation of *ē* in Le largely developed in the period after the oldest Sl borrowings. One may conclude from the Le and Li data, although indirectly, that Sl *ě* was an open vowel.

In OPr *e* was an open vowel interchangeable, in some manuscripts, with *a*. This also applies to the Sl loan words in which it occurs: *kumetis* 'peasant' < Sl **kumetis*, *salmis* 'helmet' < Sl *šelm-*, *ratinsis* 'chain' < **retęz-*. As for OPr *ē*, it tended toward *ī*, particularly in Samland. Sl *ě* (*ₑā*) underwent the same treatment: *swetan* ~ *swītas* 'world' < Sl *svět-*, *dīlas* 'business' < *dělo*, *grīkenix* 'sinner', OCS *grěšьnikъ*. In a few cases, however, *a* occurs instead of *ī* or *e*: *sweriapis* 'stallion' <*sverěp-*, *Woytschach*, personal name < *-těxъ*, *Woymar*, personal name, < *-měrъ*.

Only a few words with *ě* borrowed from Germ may be ascribed to the time of the first Sl-Germ contacts. They render Germ *e* with *e* and Germ *ē* with *ě*: OCS *goneznǫti* 'recover' < Germ **ganesan* (Go *ganisan*), **petil-* (R *pétlja* 'loop') < Germ **fetil-* (ON *fetill*); *lěk-* (OCS *lěčьba* 'curing') < Germ *lēk-* (Go *lēkeis* 'physician'). In this last example one must recall that Germ *ē* rendered by *ě* had an open character (See 11, 3). The instances with *ě* do not enrich our knowledge of nature of CS *ě*.

Of later Sl-Germ relations, the contacts between OSw and Eastern Sl, and between OHG and Proto-Sn are best reflected in the Sl languages. The Eastern Sl data, however, undoubtedly reflect the later narrowing of *ě* typical of the Novgorod and, possibly, Kievan areas. In these words Sl *ě* renders ON *ei* (Sw *ē*): OR *Rognědъ*, personal name, < ON *Ragnheiðr*, *Svěnaldъ*, personal name (also *Svěneldъ*, Pr Chr, 944) < ON *Sveinaldr*, *Iskorostěnь*, town-name, < ON *scarfr* 'cliff' (or *skora* 'notch') + *steinn* 'rock', OR *rěnь* 'sandbank' < ON *rein* 'grassland'. These correspondences cannot be considered CS.

Several Sl tribal names recorded in the second half of the tenth century, *Dadosesani* (So-called Geographer of Bavaria), *Zpriauani* (Charter of 948), and *Zerezepani* ~ *Circipani* (Charters of 952, 965) contained *ě* in Sl. The first name has the root *děd-* 'grandfather', the third *pěn-* 'foam' (river-name, P *Piana*) the second renders Sl **Sprěvjane*. In all three cases *ě* is rendered by *a*, but *Dadosesani* is inconclusive from the viewpoint of CS because its *a* can reflect Lechitic development *ě* > *'a* before hard dentals. The second and third names where *ě* was followed by a palatalized consonant are of greater importance. About a century later Thietmar recorded the same name **Dědošane* with *e*: *diedesi*. However, chroniclers are not very reliable sources for Sl phonology because they often recorded names from hearsay, mutilated by many transmissions or by association with more familiar names.

Sn evidence is of greater value because it is excerpted from old documents compiled on the spot or from loan words still in use. In a record of 811 Sl *běl-* 'white' appears as *Pielach* ~ *Bielacha*. Bav *ie* renders the diphthongal character of Sl *ᵉa*; in the same way *rěka* 'river' is recorded as *Rieken* in 982. Sl personal names *Xotiměrъ*, *Stoiměrъ* are recorded by G eighth-century scribes as *Cheitamar*, *Ztoimar*, testifying to the open pronunciation of Sl *ě*. It ist also characteristic that OHG diphthongs *ia*, *ie* in Sn loan words are rendered with *ě*: *cệgel* 'brick' (**cěgъl-*) from OHG *ziagal* ~ *ziegal*, *krệg* 'quarrel' (**krěg-*) from OHG (*widar*)*kriegelîn*, *krệha* 'bullace' < OHG *kriach*, *špệgli* 'glasses' < OHG *spiegal*, etc.

Sl-Rom contacts yield little concerning the character of Sl *e* and *ě*. **Myrtearia* is reflected in Sl place-name *Mrčara* (isle on Adriatic); this can be considered an example of the treatment of *ě* after hushing consonants. If so, it proves *ě* was an *ᵉa*-type vowel. But it is also possible that La *e* changed into *i̯* and was absorbed by *t*, this cluster giving *č*. In this case *a* merely continues Rom stressed *a*. The relations are clearer in ChSl *ocělь* 'steel' (Sk *oceľ*, Cz *ocel*, Sn *ocệl*) from VLa **aciale* (It *acciaio*) but there are complications in that some Sl languages had *ĭ* in the word: SC *òcāl*, gen *ocála*, US *wocel* ~ *wocl*. In the SC islet-name

Ölipa *i* can be an ikavian reflex of *ě* which probably goes back to late La *ă* : *alapa* 'wing', but if this is true it remains unclear why the middle vowel lengthened in Sl. The city-name *Split*, also with *i* from *ě* in ikavian SC, continues Gr 'Ασπάλαθον through Rom **Speltum* changed in Sl into **Splět-*, thus indicating the *a*-type phonetic value of *e* (*ě* from *e* is due to metathesis, see 27, 2). Cases with metathesis are in general not quite reliable because *ě* was a concomitant of the metathesis and could have also developed from closed *e* as in the SC province name *Srêm* < *Srěmъ* < VLa **Sermium* (La *Sirmium* ~ *Syrmium*). Altogether, SC-Rom evidence does not contradict the *ₑa*-character of *e* and *ě* but does not add any more proofs.

Gr data are more numerous and basically unambiguous. The Sl origin of some castle-names in Procopius (525-567, *De aedificiis*) such as Τιμένα, castle-name in Vidin area vs. Τιμίανα, castle-name in Niš area, derived allegedly from *timěno* (OCS *timěno* 'mud') is dubious. But in later Gr place-names of Sl origin the same vacillation in rendition of *ě* is found, and the cases with *a* as the substitute for *ě* are too frequent to be fortuitous. It is important that they also come from those Gr provinces where the Slavs became extinct relatively early. These are some of numerous examples available: Λιασίνοβα < *lěs-* 'wood'; "Οραχος < *orěx-* 'nut' (Laconia); 'Αράχοβα < *orěx-*, Μπάλα < *běl-* 'white' (Achaia); Μπρέσακον < *prě-sěk-* (Acarnia, Aetolia), etc. Also in common words *ě* is often rendered with *a*: σανόν < *sěno* 'hay', χράνος < *xrěn-* 'horseradish', dial (Arcadia) κολιάνιτσα < *kolěn-* 'joint desease', etc. As for *e*, as a rule it is rendered by ε and only exceptionally with α: Βελίκα < *velik-* 'big' (Messenia), Ζεμενόν < *zem-* 'earth' (Corinthus) vs. Πλάβαλι < **plěveli* 'darnel' (Ioanina), a borrowing not older than the eighth century as shown by the metathesis **pel-* > *plě-* (See 27, 14). The rendition of the city-name *Kyevъ* in Constantine Porphyrogenitus' work (middle ninth century) as Κιοάβα, Κίαβον along with Κίοβα is hardly reliable.

The Gr name for the Tu tribe Πατζινάκος finds its Sl (OR) counterpart in *pečeněgъ*, again with the correspondence Gr α – Sl *ě*. This directs one to Sl loan words of Oriental origin. In some of them Sl *ě* substitutes for aboriginal *a*, e. g. R *kaléka* 'cripple', U *kalíka* probably borrowed from Osm *kalak* 'deformed'. But this material has never been systematized; isolated examples may be due to an interplay of folk etymology and other adaptations of the borrowed words to Sl language habits. One word however deserves consideration, OCS *mečь* 'sword, knife', R *meč*, P *miecz*, LS *mjac*, US *mječ*, Sk, Cz *meč*, Sn *mèč*, Bg *meč*, a word which together with Go *mēki* 'sword' (acc sg) seems to have been borrowed from some Caucasian language where its root is possibly represented by Georgian *máχva* 'sharp, sword', Lezghin *maχ* 'iron'. If this assumption is correct Sl *e* could have rendered here a Caucasian *a*[1].

[1] The parallel form, OCS *mьčь*, continued in SC *mȁč*, gen sg *màča*, is not to be taken into account because in all probability it was due to a relatively late folk etymology bringing together *mečь* with *mъčati* 'throw, cast', a procedure normal with loan words without kith and kin, and facilitated by the late interchange of ь and ъ according to the presence or absence of a front vowel in the next syllable.

Hung normally reflects Sl *ě* as *ē*: *beszéd* 'speech', *déd* 'ancestor', *dézsa* 'cask', *eszterha* 'roof', *lép* 'bird lime', *néma* 'dumb', *német* 'German', *széna* 'hay', *szomszéd* 'neighbor' from *beséda, dědъ, děža, strěxa, lěpъ, němъ, němьcь, sěno, sǫsědъ*. The apparent exceptions, with Hung *a* from Sl *ě* are *nádra* 'womb' and *császár* 'emperor'. However, in the former, Sl itself has doublets with *a* and *ě* (OCS *nědra* ~ Sk *nádra*), and in the latter, *a* from *ě* may have been brought about by vowel harmony typical of Hung. On the whole, Hung borrowings reflect not CS, but a Sl dialect of the ninth and subsequent centuries, in which *ě* yielded *e*[2]. The situation is more complicated with respect to CS *e*. Although again there are many instances in Hung with *e* rendering Sl *e*, as *medve* 'bear', *veréb* 'sparrow' (from *medv-ědь*, **verb-*), in other cases Hung has *a*, e. g. *család* 'family', *csata* 'battle', *nyavalya* 'illness, misfortune', *vacsora* 'supper', *zsana* 'shrew', from *čeljadь, četa, nevolja, večerja, žena*. In most of these words *a* may be explained by the requirements of Hung vowel harmony. But it is noteworthy that although *i* is admitted in Hung words with other back vowels as well, it is never substituted for Sl *e*. It is evident that Sl *e* in those dialects which were submerged by Hung was an open vowel closer to *a* than to *i*.

A summary of this brief survey of the data supplied by an analysis of Sl borrowings to and from the adjacent non-Sl languages, if OPr and Rom data are excluded as insufficient or inconclusive, can be presented in the following table:

Language	Character of *ě*	Character of *e*
Irn	open vowel (type *æ*)	–
Fi	open vowel or diphthong (*ₑa* type) with second component more open than the first	open vowel (*æ*)
Li	diphthong	open vowel (*'a*)
Le	open vowel	inconclusive
Proto-Germ and Go	open vowel	inconclusive
OHG	diphthong (*ₑa* type)	inconclusive
Gr	diphthong (*ₑa*)	*e*
Hung	*ē* (open vowel)	open vowel (*æ* ?)

Thus, no data contradict the assumption of the open character of CS *ĕ* at the time of Sl contacts with the peoples included in the table. The complex character of original Sl *ē* containing a second component of broader aperture than the first is also confirmed unequivocally. In the case of *ĕ* its on-glide posited here is not reflected in the languages examined. Obviously, it was not perceived in a short vowel. Nonetheless, one has to assume its presence not only because of the indications given by the further development of this vowel but also because it

[2] Hung *e*, however, seems to have been quite an open vowel. This may be inferred from the substitution of *a* for Hung *e* in Sk loan words of Hung origin: *t'ava* 'camel', *t'archa* 'burden, load', *bet'ah* 'devil', from Hung *teve, terhe-, beteg* 'sick', etc.

is the presence of this on-glide which differentiated the rendition of *ě*, as open as it was, from the rendition of *ₒă*.

Finally, there is additional evidence which indirectly but persuasively shows that Sl *ě* was an open vowel. This is the fact that in Sl borrowings from other languages where the basic word had a closed *ē* (*ẹ̄*) Sl as a rule rendered it not with *e* but with *i*. This is the case with VLa *mēsa*, Go *mēs* which became in Sl *mīsa* (OCS *misa* 'disc'); Go *-mērs* in personal names – Sl *-mirъ* (E. g. *Vladi-mirъ*); Pers *dēv-* 'demon' – OR *divъ*; Rom *acētum* – Sl **ocitu* (OCS *ocьtъ* 'vinegar'); possibly Rom place-name *Tergeste* which through **Tirgste* became Sn *Trst*, SC *Tȑst* (It *Trieste*); cf. also SC *Nadin*, through **Nidinu*, from *Nedinum*, place-name in Dalmatia, Bg *Iškar*, river in NW Bulgaria, through *(*J*)*isku*, from *Oescus*, etc.

6. Romanian evidence. In a great many words borrowed from Sl, Rm substitutes its diphthong *ea* for Sl *ě*, in some also for Sl *e*; after labials *a* may be present instead of *ea* (a Rm change of the sixteenth century), e.g.: *leásă* 'shrubs; fish basket', *ţeávă* 'muzzle', *pleávă* 'chaff', *treábă* 'business'; *nevástă* 'wife', *vádră* 'bucket' (but *clipeálă* 'wink', *scrobeálă* 'starch', with *ea* also after labial); for *e*, *ceátă* 'crowd', ORm (16th cent.) *peaştera* 'cave' (MoRm *péşteră*). Cf. Bg *lesá* 'wattle', *cev* 'muzzle', *pljáva* 'chaff', *trjábva* 'necessary', *nevjásta* ~ *nevésta* 'newly married woman', *vedró* 'bucket', *skrobjála* 'starch', *čéta* 'detachment', *pešterá* 'cave'.

Words of this type, however, cannot be used to establish the phonetic value of late CS *ě* and *e*. It is the rule of Rm to have *e* changed into *ea* before *a* (the latter may be represented in Mo Rm as *a*, *e* or *ă*). In positions before *e* or *i* it alternates with *e*, and accordingly in loan words from Sl *e* in place of *ě* or *e* is used in cases like *léne* 'laziness', *véste* 'news', *cleşte* 'pincers', *vrédnic* 'worthy, capable', *vétrilă* 'sail'; for *e* cf. *priméjdie* 'danger'. Cf. Bg *lénost* 'laziness', *vest* 'news', *klešti* 'pincers', *vréden* 'capable', *vetrílo* 'fan; (arch) sail', *preméždie* 'danger'.

Rm words of Sl origin only follow the pattern of alternations also characterizing words of La provenance, e.g. *seáră* 'evening' (pl *séri*) from La *sērum* 'late time', *neagră* 'black' (fem) (masc *négru*), from La *nigra*, *niger*. As in the case of *oa* from *o* (See 10, 9) the distribution of *e* : *ea* is conditioned by the anticipative tendency of Rm: presence of *ea* in the first syllable signals an original *a* in the next syllable and thus points to the grammatical category of the word. Hence, the presence of *ea* instead of Sl *ě* or *e* in the aforementioned and other words of the same type fails to be a direct proof of how *ě* and *e* were pronounced in late CS.

But these data may be used as indirect evidence like the Rm evidence for *ₒa*. The distribution of *ₑa* was dictated by the structure and developmental tendencies of Rm. But the very fact that *ₑa* was introduced in the system of Rm vowels is to be explained by the Rm-Sl bilinguality and the transference of Sl language habits into Rm speech. From that point of view Rm *ea*, whether in words of Sl origin or those which came from La or other sources brings a positive proof that Sl of the sixth and few later centuries had *ₑä* in the set of its vowels.

In the case of *ea* Rm however goes much farther than in the case of *oa*: it has many instances of *ea* from *ě* in Sl loan words in positions other than before *a* in the next syllable. Some examples are: *hrean* 'horseradish', *leac* 'medicine', *pribeág* 'wanderer', *treaz* 'awaken', *teasc* 'press', *deal* 'hill', *sfat* 'advice'; in place-names: *Pleașov*, *Predeal*, *Smadovița*, etc. (Cf. Bg *plešiv* 'bald', *predél* 'boundary'; MBg *smědъ* 'dark'). The presence of *ea* in these words is not motivated phonetically in Rm and consequently seems to be direct evidence of Sl pronunciation. For *e*, see also cases like Rm *năuk* 'ignoramus', *năvod* 'seine' with Rm *ă* going back to ORm *a* in unstressed position. The situation, however, is not simple in this case, either. First of all, it is unknown whether these words were borrowed from CS or from Bg. If the second alternative is to be assumed Rm *ea* reflects Bg. *'a*, cf. Bg *xrjan* 'horseradish', *ljak* 'medicine', *prebjágvam* 'cross running'; and even where standard Bg has *e* as in *trezv* 'sober', *(pre)del* 'boundary', *səvét* 'advice', the EBg dialects have *'a* as well[3].

Under such circumstances it is important to know whether the given Sl word occurs only in Daco-Rm or in Aromunian, Megleno-Rm and Istro-Rm as well. Those forms used in all four dialectal groups were most probably borrowed in Proto-Rm times and, consequently, are more liable to be CS. Istro-Rm is particularly crucial because of the remoteness of these Rm speakers from Bg; the evidence of Aromunian is also of value as Aromunian is separated from EBg by the WBg dialects which have *e* from *ě*. But even the presence of a Sl word in both Daco-Rm and Aromunian, with *ea* in each case, does not warrant that the word was borrowed from CS because Rm migrations along the Balkan and Carpathians took place as late as the fifteenth century.

It is no less important that Rm developed an alternation *ea:e* as a morphological device opposing sg to pl, and in the words in question *ea* in sg could have developed in Rm itself based on the presence of *e* in pl: *pribégi* : *pribeág*, *trézi* : *treaz*. Other words cited have pl in *-uri* which does not presuppose vowel alternations: *leac* : *leácuri*, *teasc* : *teáscuri*, *deal* : *deáluri*. Such forms are found in the oldest recorded Rm texts, but it is not known how old particular word forms may be.

Thus, the presence of *ea* in Rm is more significant for late CS pronunciation of *ě* and *e* than Rm words with *ea* borrowed from Sl.

7. Scattered cases of *e* reflected as *a* in Slavic. In their endeavor to prove that CS *ě* was an open vowel close to *a*, although now it normally occurs as such only in EBg and Lechitic[4], some linguists began collecting isolated examples of words having *a* from *ě* opposing the general rule from the languages in which normally *ě* yielded *e* (or even *i*). Skok was especially insistant in hunting out

[3] In place-names of Sl origin, the area of *'a* seems to coincide basically with the area of *št* < **tj*, a typical feature of Bg (Iordan).

[4] It is also well attested in OCS and in M (at least in the dialects of Kostur and Ohrid); in M *ě* changed into *e* apparently no sooner than the fifteenth-sixteenth centuries.

such words in SC. In standard SC *òrah* '(wal)nut', *kljȁst* 'with crippled arm' (cf. OCS *sъ-klěštati sę* 'clench'), *òlaj* 'linseed oil' (gen sg *òlaja*) from La *oleum* or OHG *olei* but influenced by Sl *lějǫ* 'pour' represent such anomalous reflexations of *ě*; cf. also *Neretva*, river-name, from La *Narenta* (Gr Νάρων). In dialects there are forms like *gnjāzdȍ* 'nest' (Rab) ~ *njåzlȍ* 'snake's hideout' (Istria), *slapić* 'conger' (Dalmatia; to *slěpъ* 'blind'), etc., up to 75 examples in Skok's count. After a critical screening of the data this number would be substantially less, but the presence of scattered words with *a* from *ě* is firmly established.

Instances of this type are not limited to SC alone, nor to *ě* only. They also concern *e*. In R *djádja* 'uncle', Br *dzjádz'ka*, U *djád'ko* from **dědę* the presence of *a* in the first syllable is usually ascribed to an assimilation with *-a* of the final syllable. This is not quite implausible: see 22, 5. However, it is also possible that one is dealing with an archaic pronunciation of *ě* preserved in an affective word belonging to children's speech[5]. OR *čaxъ* 'Czech' in the expression *mežju čaxi i ljaxi* 'neither this nor that' has *e* = *ea* preserved unchanged in a rhymed phrase. NR *pjástat'sja* 'supervise children; be busy', belongs to this group, too, cf. OCS *pěstunъ* 'educator'; also R *suxoját'* 'meagre food' vs. *syroéžka* 'russula'.

While R *pódle* 'nearby', OCz *podlé* have regular *e* from *ě* (from *po* + loc sg of **dъla* 'length'), U *biljá*, Sk *podl'a*, LS, US *pódla* have preserved the older pronunciation of *ě* and OP vacillates between *podle* and *podla*. In the same manner U *vidkiljá*, LS *wótkula* 'from where' (< *ot* + *ko* + *lě/le*) may be considered instances of arrested development[6] as opposed to the normal reflexes of *ě* ~ *e* in R *otkóle*, Sn *doklȇ*, Bg *otkóle*.

In P archaic pronunciation of *ě* as '*a* is maintained before hard dentals; but some dialects, particularly in Mazovia and NE Poland testify to original vacillations in that they proceeded even further and also generalized *e* before hard dentals, if *ě* was preceded by labials: *zamietać* 'sweep', *wiedro* 'bucket', *wietrak* 'windmill' vs. standard P *zamiatać, wiadro, wiatrak*. Cf. vacillation in the place-name *Myedzwada* ~ *Myedzwyeda* (near Sandomierz) in Długosz' Chr. Sk has *miazga* 'sap' vs. normal R *mezgá* 'sapwood' (OR *mězga*), Cz *mízha* 'sap', SC *mézga*, etc. Cz verb *díti se* 'take place' has the past tense form *dálo se* along with phonetically normal *dělo se*; the form *dálo se* is not due to a blending with *dáti* 'give', as is usually stated, but rather preserves a trace of the archaic pronunciation of *ě* petrified under conditions of contraction (For a clear differentiation of *děti se* and *dáti* cf. the formula "Dalo sie to a dano w Podyebradyech" in a charter of 1370). Also Cz *žádný* 'none', subsequently borrowed from Cz by Sk (*žiadon*), US (*žadyn*), P (*żaden*), and U (*žádnyj*), has *a* due to the contraction of *e* + *je* (*ni-že-jeden*), thus retaining the old pronunciation of *e* almost unchanged. Cf. also Cz *žalud* 'acorn', *žaludek* 'stomach', *žížala* 'earthworm' with *a* after *ž* instead of the expected *e*. Sn *sestrán* 'nephew', *sestrána* 'cousin' have their *a*

[5] Early diplomas of Croate and Dalmatian princes written in La render *dědъ* 'grandfather' as *dad*.

[6] Possibly supported by the fact that the preposition *ot* takes the gen and the typical ending of this case in masc and neut is *-a*.

from *ě* (**sestrěn-*, cf. U dial *sestrínycja* 'niece', P *siostrzan* 'nephew' vs. *siestrzenica* 'niece', Cz *sestřenice*). Western Bg dialects with their regular change of *ě* into *e* still preserve a trace of *ₑa* pronunciation of *ě* after *c*: owing to dispalatalization of *c* the on-glide has been lost: *cal* 'whole', *calíva* 'kiss', etc.

Word groups and individual words with such arrested development have never been systematically collected for every Sl language. As indicated above on some occasions, preservation of the archaic pronunciation of *ě* and *e* in these words has been caused by special factors: specific phonetic environment (following hard dentals in P, preceding *c* in WBg), specific contractions, belonging to affective strata of language, or usage in petrified (rhymed) phrases. In cases other than those specified above, it is probably due to interdialectal borrowings. For instance, when certain SC dialects had *ě* changed into *e* (or *je, ije, i*), others still had *ě* = *ₑa*; at this stage the former borrowed a word with *ₑa* (from *ě*) from the later. Consequently, a word with *a* from *ě*, such as SC *òrah*, does not prove the pronunciation of *ě* as *ₑa* in the dialect which now uses this word form, but proves such a pronunciation in some other dialect with which this one was in contact. If generalized, however, it proves the presence of *ě* = *ₑa* in at least some OSC dialects.

Besides various isolated cases of *a*-type pronunciation of *ě* in those Sl languages which otherwise reflect *ě* as a more front vowel, there are two types of phonetic environment in which vacillation may be more generally established: the position after *r*, and the positoin after *j* (*i̯*).

8. Vacillations *re* ~ *ra*. Special attention was paid to the vacillation *re* ~*ra* by P dialectologists (Taszycki a.o.). They established that in NP dialects, especially in N and E Mazovia and Ka, but also scattered throughout Great Poland and found in isolated words in Central Poland, initial *ra-* is replaced by *re-*: *reno* 'morning', *rek* 'crowfish', *redlo* 'plough', *remę* 'shoulder' (Standard P *rano, rak, radlo, ramię*), etc. Yet even in Mo NP both *re-* and *ra*-forms are found alongside each other; and the farther one goes back into the history of P the more fluctuations and the greater the area of such vacillations. E.g. in the Bull of Gniezno, ca. 1136, the same place- and personal names occur in doublet forms: *Redos* ~ *Rados, Rezc* ~ *Razc, Redanta* ~ *Radenta* (Standard P *Radosz, Raczek, Radzięta*), and in Warsaw court oaths of the fifteenth – sixteenth centuries *rany* ~ *reny* 'wounds', *redlo* (spelt *redlj*) 'plough', etc. Thus, the confusion of *re-* ~ *ra-* characterizes ONP; the prevalence of *re-* in Mo NP dialects and *ra-* in Mo Central P dialects is a relatively late generalization of one of the two competing forms.

The confusion of *ra* ~ *re* is not limited to NP. In place-names of the westernmost Sl settlements of present day Germany the same vacillation is found: *Radele* (1289, area of Rostock) ~ *Redenisce* (1317, area of Malchow), *Rederanche* (1224, area of Rostock) ~ *Ratepole* (1337, area of Schwerin) ~ *Retemitze* (1366, area of Malchin) (< **Radola, *Rademici, *Radorǫky, *Ratepolje, *Ratimici*), etc.

This indiscriminate use of *e* ~ *a* after *r* in NWSl is paralelled by similar

vacillations of *e* ~ *a* in OCS as in *pravrati* (PS), *prěděda* (ES), *vramję* (PS), *strěně* (Zo), *pograbajęi* (PS) instead of *prěvrati* 'change', *praděda* 'great grandfather', *vrěmję* 'time', *straně* 'country', *pogrěbajęi* 'he who buries' and particularly often in *trava* ~ *trěva* 'grass', with *ě* certainly not due to the ablaut, and in *podražati* ~ *podrěžati* 'deride' (Mar, As, PS).

Confusions of this type are by no means rare in other Sl languages. In OSC the personal name *Krěsiměrъ* is attested as Κρασιμέρη (Const. Porph.) along with *Cresimiro* (1059). In Mo SC *(s)prēma* 'toward' has a parallel form *(s)prama*, even in literary work ("*sprȁma sûnca*", Njegoš), which could hardly have been influenced by *kamo* 'whither' as suggested. Such doublets are not rare in dialects. The dialect of Brač has *rēbȁc* 'sparrow', *rést* 'growth', *krȅst* 'steal', the dialect of Hvar has *rēbȁk*, *rést* (standard SC *vrábac*, *râst*, *krȁsti*). The Rm doublets *rața* ~ *reața* correspond to the SC dial *rȁca* 'duck'. Similar fluctuations are found in the records of OSk names: *Rasticъ* ~ *Restitius* (861, *Annales Bertiniani*), *Bratislava* is recorded in 907 as *Brezalauspurc* (hence its German name *Pressburg*), *Rača* near Bratislava occurs in 1245 as *Recha*, in 1296 as *Racha*. It is difficult to date the *ra* > *rä* in the Sk dialects of Lower Orava and Gemer: *žerävi* 'crane', *kräj* 'land', *braträňec* 'cousin'. Cz *kořání* 'roots', Sk *dokorán* 'wide open' have their *a* from *e*.

It is obvious from these examples that the fluctuations *e* (*ě*) ~ *a* after *r* are not limited to NP; nor do they occur only after initial *r*. If in OP they are usually attested in the initial syllable, this may stand in conjunction with the initial stress assumed for OP before the rise of P penultimate stress. The fact that the fluctuation occurs more often after *r* than any other consonant (except *j*, see section 9) must be analyzed in the light of Sl dispalatalizations. Sl *r* was more prone to dispalatalization than any other consonant. When dispalatalizations actually took place in *rě-* groups (i.e. *rₑa-*) the front on-glide of *ₑa* was easily absorbed; as a result the groups *rₑa* and *ra* became identical; hypercorrect pronunciation, on the other hand, transferred *rₑa*-pronunciation to the words which originally had *rₒa* groups. Occasional levelings proceeded in both directions until a certain stabilization was attained in each dialect.

The fluctuation of *r* ~ *r'* in late CS and in the early history of many Sl languages is well attested also in positions other than before *a* and *ě*/*e*, e.g. in the position before *y* ~ *i*, as in OCS *ristati* 'run' vs. R *rys'* 'trot', P *ryść*; or *rygát'* 'belch' whose *y* from *ū* is well confirmed by Li *rúgti* 'belch', Le *rûgt*, Gr ἐρεύγομαι 'spit out', La *ērūgō* 'belch', AS *rocettan* – vs. P *rzygać*, LS *rygaś*, US *rigać*, Cz *říhati*, all going back to historically unmotivated *ri*-forms. Parallel fluctuations can be easily observed in areas where *r* now undergoes dispalatalization, as NEBr, Sk dialects of Zvolen and Liptov with their forms *riast'* 'grow' instead of *rásť*, *rozprievat'* 'talk' instead of *rozprávat'*, etc.

The developments of *re*-groups examined in this section were undoubtedly late, none going farther back than predivisional CS. But the *a*-character of *ě* revealed in these groups was much older. It arose prior to the time of the dispalatalizations of *r*, even prior to the time when the palatalization of consonants before front vowels began in CS. Thus, this phenomenon indirectly illuminates the

situation of CS at a relatively early period of its history (on the chronology of the change of *ĕ* into *ₑă*, see section 10).

9. Vacillations *je* ~ *ja*. The vacillations after *j* are of an earlier date. They are also conditioned by the preceding consonant, although, of course, no dispalatalization took place in this case. What did occur was the merger of the on-glide of *ₑă* with *j* : *jₑă* > *jă*. But because the prothetic *j-* was unstable, parallel forms could have existed: *jă-* ~ *ₑă-*. The former developed into *ja-* (*jo-*), the latter into *ĕ-* or *e-* some of which in turn later assumed the prothetic *j-* and thus became *je-*, *ji-*, etc. As a result there are fairly numerous doublets with *ja-* and *je-*.

Since *ē* after *j* and hushing consonants changed into *a* at an early period (See 11,3 and 17,6), fluctuations involving *ĕ* of this provenance are relatively rare. Instead they characterize the *ĕ* which arose at a later date which may be denoted $ĕ_2$ (See 20,1). Examples will be examined here for they illuminate the phonetic value of *ĕ* whatever its origin. There is not the slightest indication that any difference existed between the phonetic value of $ĕ_1$ and $ĕ_2$.

Examples of *ja-* ~ (*j*)*e-* with underlying *e*:

root **eģ'-* 'lake' as attested by Li *ẽžeras*, Le *ezers* has normally (*j*)*e-* in Sl, e. g. P *jezioro*, SC *jȅzero*, R *ózero*[7], but LS has *jazor*, Sk *jazero*. The LS *a* can be of a later date since LS had a tendency to change *e* into *a* before hardened spirants, but Sk *a* cannot be explained away by such an assumption;

root **ed'l-* 'fir, spruce', cf. Li *ẽglė*, La *ebulus* 'elder'. Sl usually has (*j*)*e-*, as in R *el'*, Bg *elá*, but U *jalýna*, Pb *jádlă* (jadela);

root **ek'-* 'sturgeon', cf. OLi *ešketras*, OPr *esketres*. Sl has (*j*)*e-* as in R *osëtr*, Cz *jeseter*, but U fluctuates between *osétr* and dial (Carpathian) *jasétr*, OP *jasiotr*, Ka *jesoter* ~ *jasoter*, US *jasotr*;

root **e-* (pronominal) in Sl (*j*)*ed-in-* 'one' as affirmed by La *ecce* 'there, see', cf. OCS *edinъ*, P *jeden*, etc. *ja-* is found in LS *jaden*, Pb *jadăn* (gadân);

root **er-* 'goat' as in Gr ἔρι-φος 'kid' has in Sl *ja-*: R dial *jarína* 'wool', SC *jàrina*, Bg *járina*;

root **ĕrĕb'-* (Li *íerbė* 'hazel grouse', Le *ir̃be*) : P *jarząbek* 'hazel grouse', SC *jarèbica* 'partridge' vs. U *órjabok*, Sn *jerêb*, M *erebica*; in RChSl *jarjabь* is found along with *orjabь*, and Bg vacillates between *járebica* and *érebica*; cf. also LS *jeŕebina* 'rowan tree', US *wjerjebina*.

It is possible that in the root **eg'(')-* 'I' the change *e* > *a* was CS. *ja-* is found in all Sl languages: R, Br, U, P, LS, US, Sk *ja*, Cz *já*, Sn *jàz*, SC *jâ*, M *jas*. If this is true, one must assume that OCS *azъ* without prothetic *j-* does not preserve the old status of the root but arose as a result of the loss of *j-* which was CS.

Fluctuations *je-* ~ *ja-* involved certain roots supposed to have originally had *ō-* (Sl *ₒā-*, later *ā-*), e.g. R, Br *jásen'* 'ash tree', U *jásin'*, LS, US *jaseń*, Pb *josín* (gôssîn), Sk *jasen*, Cz *jasan*, Bg *jásen*; OP and SP *jasion* vs. P *jesion*, Sn *jásen* ~ *jésen*, SC *jȁsēn* vs. dial (W) *jèsēn*. For IE *ō*, cf. Li *úosis* Le *uôsis*, La *ornus* (< **ōs-en-os*), etc.

The situation with *je-* ~ *ja-* is often obscured by the fact that IE had vowel alternations in many of the roots in question, so that it is difficult at times

[7] In ESl *je-* > *o-* before a syllable with *e* or *i*. See 28,3.

to establish whether the form with *e* or with *o* is represented. Cf. for the roots cited above:

**eǵ'-*: Li *ẽžeras* 'lake', but OPr *assaran*, Gr Ἀχέρων (river in the netherworld);
**ed'l-*: Li *ẽglė* 'spruce' but OPr *addle*;
**ek'-*: OLi *ešketras* 'sturgeon' but Li *ašerỹs* 'perch';
**er-*: Gr ἔριφος 'kid' but La *aries*.

However, no matter what the complications concerning the words cited one fact is striking: although vowel alternations occurred in other phonetic environments as well, in no other phonetic environment did Sl fluctuate so much as after *j-*. Because of instability of the prothetic *j-* the competing forms in *ja-* ~ *e-* (from *ja-* ~ *ₑa-*) were joined by forms which arose from blendings: in *a-* and *je-*. Individual Sl languages dealing with these four variants of the word beginning chose one version, certain languages still not having a fixed form for certain words even today. If vowel alternations occurred in a given root, they contributed to the confusion of the forms, as well.

The same situation exists in roots beginning in *ě* of later (diphthongal) origin ($ě_2$), e.g.:

root **oig'-* as in Li *áiža* 'chink', Le *aĩza*. In Sl the expected *ě* is represented directly in RChSl *ězva* 'sore', Cz *jízva* while all other Sl languages have reflexes of *ja-*: OCS *jazva* 'hollow, blow', R *jázva*, P dial *jaźva* 'pit', Sk *jazva* 'scar', Sn *jâzba* 'hollow', SC *jȁzvina*, Bg *jázva* 'wound';
root **oik'* – as in Li *áiškus* 'clear'. No Sl language preserved *ě* as such in this root: R *jásnyj*, Br *jásny*, U *jasnýj*, P, LS, US *jasny*, Sk, Cz *jasný*, Sn, Bg *jásen*, SC *jȁsan*, M *jasen*;
root **oit-* – as in Li *áitvaras* 'elf' (as 'protector of storeroom'). Its *ě* is also reflected in all Sl languages as *ja-* (Br, U *játka* 'booth', P *jata* 'hut, booth', Sk *jatka* 'slaughterhouse', Cz *jatka* 'hut, booth', Sn *pojâta* 'farm building', SC *pȍjata* 'sty', Bg *pojáta* 'sheep fold'), except US *jětka* 'hut' and possibly U *povítka* 'shed', if it consists of **po-it-ka* with *-v-* inserted because of the hiatus and/or in blending with *vítka* 'branch';
root **oid-* – as in Gr οἶδος 'swelling', OHG *eiʒ* 'abscess'. In Sl *ě* is preserved in LS, US *jěd* 'poison', Sk, Cz *jed*, while *ja-* is represented by OCS *jadъ* 'poison', R, Br, P *jad*, Sn *jâd* 'anger', SC *jȁd* 'sorrow', M *jad* 'poison; grief', Bg *jad* 'anger'.

As in the case of *j* + *e*, when dealing with *j* + *ě*, the fluctuations *jě-* ~ *ja-* spread from the roots with original *ě* to some roots with original *ā* preceded by *j*. This pertains to the root represented by Li *jóti* 'ride', Le *jât*, OI *yā́ti* 'go', Ir *áth* (< **jātu-*) 'ford'. The original vowel is preserved in OP *jachać*, OLS *jachaśi*, Sk *jachat'*, Sn *jaháč* 'rider', SC *jȁhati* 'ride', M *java*, Bg *jáxam* while the other Sl languages have reflexes of *ě*: R *éxat'*, Br *éxac'*, U *jíxaty*, P *jechać*, LS *jěś*, US *jěć*, Cz *jeti*. In the root **jōr-* 'year, spring', only in US *jěry* 'astringent, bitter' does a shift toward *ě* occur whereas all the other Sl languages reflect the etymological vowel. Early G records of Sl place-names have numerous instances of *je-* in place of the original *ja-*, e.g. *Jerchow* (1144), *Jerzin* (1363), *Jenin* (1278), *Jewenthin* (1308), *Jessyn* (1349) corresponding to „normal" Sl *Jaroš-*, *Jan-*, *jasen-*, etc.

The fluctuations *jě-* ~ *ja-* typical of $ě_2$ spread in a few cases to $ě_1$ (from *ē*), the most obviously to the root **ēǵ'-* (long grade of **eǵ'* as represented by P

jezioro 'lake', etc., see above. More examples in 16,4). The normal forms are those with *ja-* (because ${}_{e}a$ normally preserved its *a*-character after *j* and hushing consonants, see section 3): R, Br *jaz* 'fish weir', P *jaz*, Bg *jaz* 'drain'. But OR also had *jĕzъ*, U has *jaz* but dial *jiz* 'weir', Sk vacillates between *jaz* and *jez*, while Cz generalized *jez* as did Sn with its *jệz* 'dam, pond'.

The fluctuations *rĕ* ~ *ra* were not limited to word initial or any other position: they were brought about by the dispalatalization of *r* which could take place in any position. The fluctuations *je* ~ *ja* result from an interplay between the presence and absence of prothetic *j-*. Therefore, they are naturally limited to word-initial position. Both types of fluctuations show that in fact CS *e* and *ĕ* had the phonetic value of ${}_{e}a$, ${}_{e}\bar{a}$.

10. Chronology and historical background. Like the coalescence of *ō̆* and *ā̆* in ${}_{o}$*ā̆* the most similar evolution to the Sl development *ē̆* > ${}_{e}$*ā̆* is found in Indo-Irn where *ē̆* became *ā̆*. It is not impossible that Irn influence was an external factor pushing Sl toward more open articulation of *e*. If so, nothing would contradict the conjecture that the Sl change of *ē̆* into ${}_{e}$*ā̆* occurred at the time of Sl-Scythian contacts begun in the seventh century B.C., even though there are no exact facts to corroborate this assumption.

The geographical distribution again recalls the coalescence of *ō̆* and *ā̆* into ${}_{o}$*ā̆*: a development toward *a* complete in Indo-Irn but incomplete in Sl, inasmuch as Sl preserved an *e*-type on-glide and thus never fully identified its *ē̆* with *ā̆*; and only partial repercussions of this development are found in Balt where short *e* alone was involved. If it was possible to tentatively ascribe the Sl coalescence of *ō̆* and *ā̆* to approximately the same period as the rise of *x* (See 10,7), one may apply this criterion to the rise of ${}_{e}$*ā̆* with the same degree of probability.

It is much easier to establish how long the ${}_{e}$*ā̆* type vowel existed in Sl. Examination of Fe, Germ, and Rm data showed that this vowel was still characteristic of Sl dialects in the sixth-eighth centuries A.D.; only in Sl-Sw and Sl-Hung contacts, i.e. from the middle or late ninth century A.D., do the first indications appear showing that ${}_{e}a$ was becoming at least in some Sl dialects a more front vowel corresponding to *e* in the contiguous languages. Obviously, CS ${}_{e}$*ā̆* was a highly stable vowel, used in Sl for at least a millenium.

11. Conditions and effects. As shown in 10,8, the system of CS vocalic phonemes following the coalescence of *ō̆* and *ā̆* was to evoke a further change of either *ē̆* or ${}_{o}$*ā̆* (intonations not marked):

ī̆ *ū̆*
ē̆ ${}_{o}$*ā̆* *ei* ${}_{o}ai$ *eu* ${}_{o}au$ *er* ${}_{o}ar$ *el* ${}_{o}al$ *eN* ${}_{o}aN$.

The change of the phonetic value of *ē̆* > ${}_{e}$*ā̆* met the requirement of the system and endowed it with a high degree of internal coherence and symmetry (without changing the position of that vowel in the system).

The kernel of the system was

ī̆ *ū̆*
${}_{e}$*ā̆* ${}_{o}$*ā̆*

while the diphthongs were based primarily on the combination of one vowel from each level

${}_e$*ai* ${}_o$*ai* ${}_e$*au* ${}_o$*au*.

This was complicated by diphthongs based on the combination of a vowel of the lower series with a sonant:

${}_e$*ar* ${}_o$*ar* ${}_e$*al* ${}_o$*al* ${}_e$*a*N ${}_o$*a*N,

by the presence of diphthongs consisting of a vowel of the upper series with a sonant:

ir *ur* *il* *ul* *i*N *u*N,

and by the interplay of intonations.

The entire system of the vowels may be presented in a chart:

ĭ	*î*	*í*	*ŭ*	*û*	*ú*
${}_e$*ă*	${}_e$*â*	${}_e$*á*	${}_o$*ă*	${}_o$*â*	${}_e$*á*

${}_e$*âi* ${}_e$*ái* ${}_o$*âi* ${}_o$*ái*

${}_e$*âu* ${}_e$*áu* ${}_o$*âu* ${}_o$*áu*

îr	*ír*	*ûr*	*úr*	*îl*	*íl*	*ûl*	*úl*	*î*N	*í*N	*û*N	*ú*N
${}_e$*âr*	${}_e$*ár*	${}_o$*âr*	${}_o$*ár*	${}_e$*âl*	${}_e$*ál*	${}_o$*âl*	${}_o$*ál*	${}_e$*â*N	${}_e$*á*N	${}_o$*â*N	${}_o$*á*N

It was still a rich, perhaps overloaded system, but internally organized with each member incorporated best possible, and with no vacancies. The symmetical system of vowel alternations was well matched with the balanced system of phonemes. This was probably the reason for the long duration of this system as a whole and particularly for the long duration of its core, notably the system of four non-diphthongal vowels (framed).

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12. ELIMINATION OF GEMINATED CONSONANTS

1. Elimination of gemination. 2. Assimilation in voicing. 3. Treatment of *tt*, *dd*. 4. Chronology and conditions. 5. Problem of compensatory lengthening in vowels.

1. Elimination of gemination. CS geminated (long) consonants were simplified into regular consonants and later their very rise was thwarted so that they never reappeared unless possibly as an extraphonemic transient and ephemeral phenomenon.

The following cases may be distinguished in which a geminated consonant would theoretically have been present:

a) IE had a geminated consonant. CS replaced it with a regular consonant, e.g. IE **atta* 'father' (Cf. OI *atta* 'mother', Gr ἄττα 'father', La *atta*, Ir *aite* 'foster father', Go *atta* 'father', Hi *atta*) – Sl *$_o$*at-*: OCS *otьcь*, R *otéc*, P *ojciec*, US *wótc*, Sk, Cz *otec*, SC *òtac*, M *otec*, Bg *otéc*.

b) A geminated consonant is expected because of phonetic changes in Sl. E.g. IE **sk'oi-* (OI *chāyā́* 'shadow', Gr σκοιός 'shadowy', Alb *híje* 'shadow', Go *skeinan* 'shine') after *k'* > *s* would yield *ss-*. But Sl has *s-*: OCS *sěnь* 'shadow', R *séni* 'entrance hall', Br *zásen'* 'shadow', U *síny* 'entrance hall', P *sień* 'hall', LS, US *seń* 'shade', Sk *sieň* 'hall', Cz *síň*, Sn *sȩ̂nca* 'shade', SC *sȅn*, M *senka* 'shadow', Bg *sjánka* (See also 9,5).

c) A geminated consonant is expected at a morphological juncture, e.g., of two stems in a compound word as: OCS *beséda* 'dialogue', R *beséda* 'talk', U *bésida*, P *besiada* 'junket', Sk, M *beseda* 'talk, party', Cz *beseda* 'party', Sn *besȩ̂da* 'word', SC *bèseda* 'speech', Bg *beséda* 'discourse', a word that goes back to **bez-* 'outside' (Cf. OI *bahís* 'outside') + *sěd-* 'seat'. Another example (which can also serve for (b) is OCS *tysęšti* ~ *tysǫšti* 'thousand', R, Br, U *týsjača*, P *tysiąc*, US *tysac*, Cz *tisíc*, Sn *tisóča*, SC dial *tȉsuća*, which consists of **tūs-* (RChSl *tyti* 'grow fat') + *k'm̥t-* 'hundred' (See 9,5).

In case of prefixes gemination was also eliminated phonetically but was constantly regenerated by morphological factors as prefixes were also used before vowels and other consonants. The oldest Sl records have quite a few instances with no gemination as e.g. OCS *isěšti* 'hew', *vъzrěti* 'look', OR *rosěčena* 'dug up' (RPr), *ros(ъ)lati* 'send round' (Novgorod Chr), etc., and this situation is preserved until now in SC with its *òterati* 'drive away', *otiskívati* 'push away', *izídati* 'build up', etc., in spoken (not in orthographic) Cz, and in isolated words in all Sl languages, e.g. U *rosíl* 'broth', P *rosół* (< *ros* + *sol-*).

d) In words borrowed from other languages the geminated consonants of the original word are rendered with simple consonants, e.g. OCS *smoky* 'fig',

P *smokwa*, Sn *smǫ̂kev*, SC *smȍkva*, M *smokva*, Bg *smókva* from Go *smakka* 'fig'; from later time, OCS *popъ* 'priest', R, Br *pop*, U *pip*, P, US, Sk, Cz, Bg *pop*, Pb *püpái* (pipáy, nom pl), Sn *pòp*, SC *pȍp*, from OHG *pfaffo* 'priest'.

2. Assimilation in voicing. In some of the cited examples simplifications of the geminated consonants should have been preceded by an assimilation in voicing or unvoicing: between **bez-sěd-* and *beséd-* a logically necessary intermediate stage was **bes-sěd-*. This also applies to such instances as *isěšti* < *iz* + *sěšti*, *roslati* < *roz* + *sъlati*, etc. Whether this logical intermediate stage really existed for any tangible duration of time is an insoluble question and of no importance for understanding the CS treatment of consonantal gemination. To judge by the examples alluded to above CS belonged to those languages in which regressive assimilation in voicing takes place as soon as a voiced consonant[1] follows an unvoiced one or vice versa.

In addition to the above examples there are a few more:

OCS *pozdě* 'late', R *pózdno* [póznə], LS *pózdźe*, US *pozdźe*, Sk *pozde*, Sn *pózdi*, Bg *pózden* historically consisted of **pos* (Li *pãskui* 'after', OI *paścā́* 'behind, after', Alb *pas* 'after', La *pos-t*) + **dʻē-* (as in OCS *děti* 'put'); *s* > *z* before voiced *d*;

R, U *mast'* 'color; ointment', Br *masc'*, P *maść*, Sk *mast'*, Cz *mast*, Sn *mâst* 'fat', SC *mâst* 'grease', M, Bg *mast* 'fat' have the same root as OCS *mazati* 'smear', with *z* > *s* before voiceless *t*;

OCS *lěstvica* 'ladder, stairs', R *léstnica*, Sn *lệstva*, SC *lȇstve* have the root ending in *z*, as in R *lézu* 'climb';

R *grust'* 'sadness' as well as *gryzt'* 'gnaw' (where *z* is but orthographic) belong to R *gryzú* (1 sg).

3. Treatment of *tt, dd*. In contradistinction to other geminated consonants, in the case of *tt* CS as a rule has the cluster *st* instead of simple *t*, e.g.:

R *glistá* 'worm', Br *hlist*, U *hlýsta*, P, LS, M *glista*, US *hlista*, Sk, Cz *hlísta*, Sn, SC *glísta*, Bg *glist*, with the original stem **glit-*, cf. Li *glitùs* 'slippery', Le *glita* 'slime', Gr γλιττόν 'slippery stuff', La *glitis* 'silt' (gen sg);

R *snast'* 'tackle' belongs etymologically to R dial *snádit'* 'assemble', P *snadny* 'easy', Cz, Sk *snadný*. Cf. OIr *snáthe* 'thread', OEng *snód* 'frontlet';

Sn *čŕstev* 'hard, compact' developed from **kr̥t-tu̯-os*, cf. OI *kr̥tsnás* 'full, entire' (La *crassus* 'stout');

Br *xistác'* 'move, stir', U *xyst* 'deftness' belong to the root *xyt-* as in OCS (*po*)*xytiti* 'catch';

R *gorst'* 'cupped hand; handfull' is etymologically elucidated by U (*pry*)*hortáty* 'clasp';

R *kist'* 'cluster, tassel' – cf. U *kýtycja* 'tassel'.

In many cases the *t*-origin of *s* is evident without appealing to other languages. R *strast'* 'passion' belongs to *stradát'* 'suffer', *vest'* 'news' to *védat'* 'know', *čest'* 'honor' to *čtit'* 'honor', OCS *pěstunъ* 'educator' to *pitati* 'feed', *vrъsta* 'age' to *vrъtěti* 'turn', Cz *hustý* 'dense' to *hutný* 'compact', possibly OCS *pakostь*

[1] Consonant is taken here in its narrow sense, not including resonants. The latter did not exert any assimilative influence on the preceding consonants, like vowels.

'harm' to *kotora* 'fight' (Cf. Ir *cath* 'fight', MHG *hader* 'quarrel'). The alternation *t* (*d*) : *s* before *t* is particularly obvious in the relations of pres and inf of verbs of 1st class, as R *metú* : *mestí* 'sweep', *vedú* : *vestí* 'lead', etc.; the alternation *t* (*d*) : *s*, generally unproductive, acquired a certain degree of productivity in this morphological category, cf. R dial *istí(t')* 'go', Br *iscí*, P *iść*, Sk *ist'* instead of the expected *iti*.

Subst ending in *-slo* in the attested Sl languages create a special case. Their roots ended in *s*, *z* or *t*, *d*, the original suffix was *-tl-*. Before this suffix *t* (*d*) changed into *s*, thus coinciding with *s*, and later in the cluster *-stl-*, *t* was lost (See 13,6). Examples of roots in *-t*, *-d* with this suffix are: OCS *čislo* 'number' vs. *(iz)čitati* 'count'; U *čeresló* 'coulter' vs. Li *kertù* 'cut'; P *dziąslo* 'gum' goes back to IE root **dent-* ~ *dn̥t-* (La *dentis* 'tooth', gen sg); connection between R *prjáslo* 'distaff' and *prjadú* 'spin' is still manifest but historically it is to be established through * *pre*N*d-tl-*. Examples of roots in *-s-*, *-z-* will be discussed in 13,6[2].

The change *t* (*d*) > *s* before *t* is not limited to Sl. Sl shared it with Balt, Irn, Gr, and Alb, probably also Ill, Thra, and Phrygian, whereas OI preserved geminated *tt*, *dd*. In It, Ce, and Germ *tt* > *ss*. Cf. OCS *ědъ* 'food' but *ěsti* (~ *jasti*) 'eat', Li *édu* : *ésti* 'eat', Le *ēdu* : *êst*, Gr ἔδω : ἔσθω vs. La *edō* : *ēsse*, OIr *esse* 'eaten', vs. OI *ádmi* (1 sg) : *átti* (3 sg). Thus, IE with regard to its treatment of *tt* (*dt*) can be divided in three areas: the conservative Easternmost (OI), the East-Central, including Sl, with *st*, and the Western, with *ss*. For the East-Central area a transitory stage of *tt* > *ct* may be posited, with later simplification of the positional, extraphonemic affricate *c* into *s*[3]. This simplification is one of the earliest known dialectal features of IE and is rather Proto-Sl than CS along with such a phenomenon (although not with the coinciding isogloss) as the loss of aspiration in stops.

The early date of the change *tt* (*dt*) > *st* in Sl is convincingly confirmed by the fact that later, but still in the middle period of CS, *tt* underwent a different treatment which was that of all geminated consonants, viz. simplification into a regular consonant. For example, Germ **skattaz* (Go *skatts* 'money') became in Sl (OCS) *skotъ* 'cattle'; and no record reveals a treatment of final *-t* in the prefix *ot-* before the following *t-* of the root as *s*: cf. OCS *otrěbi* 'wipe out' (aor) (ES) vs. *otъtrěbivъ* (Su), but never *+ost-*. It is noteworthy that *tt* in IE **atta* 'father' did not follow the general change into *st*. Probably at that time the

[2] Sometimes in such cases a CS suffix *-sl-* is assumed with reference to Li suffix *-sl-* as in *mókslas* 'education'. But the Li suffix does not have the meaning of tool marking Sl words in *-slo*, as well as those in *-dlo* (P *mydlo* 'soap', etc.). It also remains unclear why *-sl(o)* in Sl would appear only after roots in a dental. Another problem is whether the suffix *-tl(o)*, as assumed here, is but a variant of *-dl(o)*. If so a progressive assimilation after *s* + *t* is to be posited:

$$s(t) + dl- > s + tl$$

with a later generalization of the *t*-form of the suffix after dentals entailing the unvoicing of the root final *z* if the root had it.

[3] This stage is possibly attested in Hi. Cf. Hi *ezt* 'he ate'.

word belonged to the affective stratum of the language, being a nursery word, and such words often resist phonetic laws. This word, however, followed the later change *tt* > *t*. It may be assumed that by that time it had lost its affectivity and become a part of the "normal" language as its continuation, OCS *otьcь*, etc. doubtless is.

The inference to be drawn from these facts is that at the time when CS simplified all its geminated consonants the treatment of *tt* (*dt*) was the same as all the other geminated consonants, but the number of instances of this treatment of *tt* is low because as early as the Proto-Sl period most *tt* (*dt*) had been replaced by the cluster *st*.

As to *dd* (*td*) it altered into *zd* with no dialectal variations in IE. Examples are by far not so numerous as in the case of *tt*, and most admit another explanation as well. R *ezdá* 'ride', P *jazda*, Cz *jízda* can be deduced from **jōd* + *d*(')*ā* (Cf. R *édu*, 1 sg). OCz *hyzd* 'something loathsome' with the root **gʷūd*'- (Cf. U *hydkýj* 'loathsome', Sk *hyd* 'vermin') could also have had a suffix -*d*(')- before which the root -*d*- yielded *z*. If R dial *púzdro* 'animal's belly', Br, U *puzdró* 'scrotum', P *puzdro* 'case: convex vessel', Cz *pouzdro* 'case', SC *pȕzdra* ~ *pȕzdro* 'tail' has the same root as Li *paũtas* 'egg' it goes back to a **pout-d*(')*ro*- and represents the change *td* > *dd* > *zd*. R *vóžži* 'reins' may go back to **vod-d-i̯*- (Cf. R *vodít'* 'lead') with *zd* from *dd* later changed into *žǯ* under the influence of the following *j* (Cf. 14,5). But the function of the assumed suffix -*d*(') is indefinite and in the cases of *ezdá*, *hyzd* the proper root did not contain *d*, cf. R *éxat'* 'ride', R *govnó* 'dung'.

Root doublets like *hyzd* : *hyd* gave rise to fluctuations between *z* and *zd* forms in some words. In Cz along with *pouzdro* exists *pudro* 'muzzle' (dial, Lach). A secondary *z* appears in R *gromozdít'* 'pile up' as compared with *gromáda* 'huge thing', in R *gruzd'* 'milk agaric' as compared with *grúda* 'heap'. On the other hand, *z* may be lost in a historically justified cluster *zd*. Sn *pȃzduha* 'shoulder' goes back to a compound **pōs*- (as in Li *pàs* 'at, near', OI *paścāt* 'behind', La *pos-t*, To B *pos-tam*) + **dous*- (as in Li *pa-duse* 'armpit', OI *dōṣ* 'arm', Av *daōš*- 'shoulder', Ir *dōe* 'arm') in which *s* + *d* normally yielded *zd*. But OCS *pazuxa* 'armpit', R, Br, U, Bg *pázuxa* 'bosom', P, Sk, Cz *pazucha*, SC *pȁzuho* 'shoulder' have no more *d*. As usual in cases of fluctuation blendings and occasional analogies operated. It is possible, e.g., that the forms of the type *pazuxa* were influenced by the word *paz* 'slot, groove'.

4. Chronology and conditions. Geminated consonants were not frequent in IE but they were not alien to the language, and not only in its affective strata. In 2 sg from the verb 'to be' gemination is still found in Gr (Dor) ἐσσί (a later stage in Att εἶ), and in La *ess* (later *es*), while OI has *ási*, Av *ahi* and OCS *esi* with the gemination eliminated. Thus, the loss of gemination is to be ascribed to the developments of individual IE languages.

The twofold development of *tt* in Sl, the older one into *st*, the newer into *t*, enables the student to assume that the second development could not have fallen into the earliest period of history of Sl when it was still a dialect of IE.

A further chronological indication as to the general elimination of gemination of consonants in CS is seen in the fact that gemination was suppressed in the earliest Sl borrowings from Germ. Evidently, at or about that time Sl no longer had any geminated consonants. Like Sl, Rm eliminated geminated consonants. That Rm originally had gemination is seen from the different treatment of *a* before *n* (*a* > *y*, spelled *î*) and *nn* where *a* is preserved: *înger* < La *angelum* 'angel', *lînă* < La *lānam* 'wool', but *an* < *annum* 'year', as well as before *l* and *ll*. If the Rm elimination of gemination was connected with Sl-Rm bilinguality of the Balkan peninsula in the sixth – eighth centuries, it would point to the fact that in Sl at that time gemination was inadmissible.

These chronological indications of the Sl abolishment of gemination are vague. They only acknowledge that Sl simplified its geminated consonants about the second or third century A.D. at the latest and that the geminated consonants were completely alien to Sl until the eighth century.

A consideration of general nature suggests itself. In Mo Sl there is a kind of direct relation between length in vowels and in consonants. Those languages which have a highly developed system of oppositions in quantity (and possibly pitch) of vowels do not admit length in consonants. This is true of SC, and with very few exceptions of Cz and Sk. Conversely, R, Br, and U, having no phonemic length in vowels, utilize opposition in length in their consonants more than other Sl languages. This is not an absolute rule but rather a strong probability. If applied to CS, the elimination of gemination in consonants can be envisaged as a repercussion of the growth of quantitative and intonational oppositions in the system of CS vowels. If this viewpoint is assumed the loss of gemination must be dated after the rise of phonemic pitch, of course, not necessarily immediately following it. The absolute chronology does not contradict such an assumption.

5. Problem of compensatory lengthening in vowels. Shortening of one component in a word often causes lengthening in a preceding one known as compensatory lengthening. Such a probability existed in the case of long (geminated) consonants shortened in CS. Attempts were made to uncover such lengthening as a reaction to shortening the following geminated *j* (*i̯*).

For *o* (*ₒa*) this could be the case in OCS *krai* (= *krajь*) 'edge' as derived from *kroj-iti* by suffix *-j-*. There are, however, many contradictory examples: OCS *pokoi* 'peace' in relation to *pokoj-iti* 'keep in peace', *stroi* 'structure' to *stroj-iti* 'build'. And since the form (ChSl) *kraj-ati* 'cut' exists along with *kroj-iti*, *krai* could have been derived from this form without any lengthening of the vowel caused by the loss of length in *j*.

For *e* the examples are OCS *lějǫ* 'pour' (1 sg) from *lijati*, inf, OCS *věja* 'branch' based on (*za*)*viti* 'weave', and OCS *veřja* 'bar'. However, *ě* could not have developed from lengthened *e* in these words. If for example, the form of *věja* is reconstructed with regard to the conditions of CS in the period under consideration, it would be *u̯ₑai̯* + *i̯* + *ₒā*. At that time the role of *i* was determined positionally. Before the final vowel *ₒā*, the preceding *-i̯-* was a consonant; but the first *i̯*, preceding a consonant, was not and could not have been, a consonant: it was a sonant which had to join the preceding vowel *ₑa* thus forming a diphthong. Any lengthening of the diphthong would have produced a long diphthong, not just *ē* (*ₑa*); but long diphthongs did not exist anymore in CS. Moreover, whether it was long or not, the diphthong

ei (*ₑai*) in its later development yielded *i*, not *ě* (See 20, 1). Therefore, normally in either case the OCS form of the word should have been ⁺*vija*, not *věja*. This is to say that in the three words cited *ě* cannot be derived from a compensatory lengthening (This consideration applies to *krai* as well). In the words cited, *ě* must have resulted either from the interplay of vowel alternations (at a much later time when the very principle of distribution of the various alternation grades became obscured), – cf. the alternation *i* : *ě* in OCS verbs and deverbatives, like *strigǫ* : *strěšti* 'cut (hair)', etc., or from the presence of a laryngeal with palatalizational capacity (H_1) which, while being lost, lengthened the preceding vowel and is represented by *j* (before a vowel).

Another general consideration may be added: there is no reason why the elimination of geminated *j* alone and not of any other long (geminated) consonant, should cause compensatory lengthening in the preceding vowel. But there are no traces of any compensatory lengthening of vowels in the cases in which a consonant was shortened. It must be assumed that the elimination of geminated consonants in CS did not bring about any changes in the system or distribution of vowels (See also 22,7).

Selected bibliography

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13. SIMPLIFICATION OF CONSONANTAL CLUSTERS

1. General statement. 2. Stop + spirant. 3. Stop + stop. 4. Stop + nasal sonant. 5. Clusters with *v* (*u̯*). 6. Consonant + non-occlusive sonant (*l*, *r*). 7. Problem of the clusters *tl*, *dl*. 8. General rules in the simplification of consonantal clusters. 9. Chronology. 10. Conditions and effects.

1. The overly developed CS system of phonemic oppositions in vowels often provided much more than the necessary minimum distinction between linguistic units. Under such conditions there developed a tendency toward further transformation of CS into a primarily "vocalic" language, i.e. a language characterized by a relatively high number of vocalic phonemes (with a developed system of distinctive prosodic features concentrated therein), high frequency in use of vowels, and the important part played by vowel alternations. In such a language consonants, although not deprived of distinctive functions act primarily the limited role of "partitions" between the vowels, establishing through their stability[1], the unity of each morpheme amid the diversity of vocalic alternations.

A series of simplifications in the use of consonants took place in CS. Whereas single intervocalic consonants were usually preserved intact, CS did away with the majority of consonantal clusters inherited from IE. It is significant that in CS no vowels were dropped throughout its whole history until this point, whereas consonants underwent series of suppressions. The trend toward a simplification of consonantal clusters generated by the richness of oppositions in the vocalic system resulted in a quantitative reshaping of the language: although the ratio between the number of vowels and the number of consonants remained stable in the language system, in the speech sequences this ratio changed, favoring more vowels. CS was moving from a phonemically "vocalic" language, i.e. a language with a high number of vocalic phonemes, toward a phonetically "vocalic" language, i.e. a language with a high usage frequency of vowels.

If one imagines a speech sequence originally consisting of consonants and vowels: CVCCVCVCCCVCCV. . . , in which each vowel is characterized by its quality (e.g., ${}_{e}a$ vs. ${}_{o}a$), length (${}_{o}\breve{a}$ vs. ${}_{o}\bar{a}$), pitch (if long: ${}_{o}\hat{a}$ vs. ${}_{o}\acute{a}$) and place (function) in the system of alternations the same sequence after the simplification of consonantal clusters would ideally be reduced to CVCVCVCVCV . . . The functions of phonemes underwent no changes in these upheavals but the ratio between the vowels and consonants used switched in our example from 9 : 5 to 5 : 5.

[1] At that time CS did not have a developed system of consonantal alternations, except for positionally conditioned alternations of voiced and unvoiced consonants.

The trend toward a phonetically "vocalic" language was never fully accomplished in CS. The elimination of consonantal clusters took a long time, proceeding from one type of cluster to another, never completely abolishing all consonantal clusters. The ratio in the above cited ideal example, so to speak, never became 5 : 5. But the process moved in that direction.

Although some indications regarding the chronology of the simplification of certain consonantal clusters exist, it is impossible to reconstruct the exact succession of them all. Therefore, they will be presented in a rather logical, undoubtedly not always the historical order. Chronological data will be pointed to wherever they are available.

The simplification of consonantal clusters proceeded for the most part through regressive assimilation which produced a long (geminated) consonant of a transient, extraphonemic nature (CS at that time did not admit gemination. See 10,1). Thus, the next step was shortening the newly arisen long consonant. However, this was not the only procedure as will be illustrated below.

2. Clusters: stop + spirant. In the clusters stop + spirant the stop was dropped. The stops in question were *p, b, t, d, k, g*, the spirants were *s, z*, and *x*[2]. But *x* had not developed in CS after consonants except after *k*; and *kx* (if not before a stop) yielded *x* probably at the very time when *x* was forming. Examples of *kx* > *x* are cited in 8,4. There are no reliable examples available for *z* either. Thus, the formulation stop + spirant may be virtually narrowed down to include stop + *s*. The formulation is further limited due to obligatory regressive assimilation in voicing (See 12,2): before unvoiced *s*, *b* changed into *p*, *d* into *t*, *g* into *k*. The adequate formula is thus: *p, t, k* + *s*. This formula applies to all cases, whether *s* was followed by a vowel or a consonant. An intermediate stage *ss* may be posited, in accordance with section 1.

Examples. a) *ps* > *s*: the root **sups-* as in OI *sūpas* 'broth', ON *súpa* 'sip' – in Sl with *p* dropped: OCS *sъsati* 'suck', R *sosat'*, Br *ssac'*, U *ssáty*, P *ssać*, Sk *sat'*, Cz *ssáti*, Sn *sesáti*, Bg *sísam*;

the root **aps-* as in Le *apse* 'aspen', OPr *abse*, OHG (with metathesis) *aspa* – in Sl with *p* lost: R *osína*, Br *asína*, U *osýka*, P *osika*, LS *wosa* ~ *wósa* 'white poplar', US *wos(yn)a* 'aspen', Sk, Cz *osika*, Bg *osíka*;

the root **kroip-* as in Li *kraipýti* 'turn', Le *kraipît* 'twist', ON *hreifi* 'wrist' – in Sl with *p* dropped: OCS *(vъs)krěsiti* 'raise from dead', P *(ws)krzesić* 'resuscitate', Sk *kriesit'* 'wake up', Cz *křísiti*, Sn *kręsiti se* 'glitter', SC *krȇs* 'bonfire (at solstice)'.

Further examples (for details see etymological dictionaries): R *osá* 'wasp' – cf. Li *vapsà*; OCS *vysokъ* 'high' – Gr. ὑψηλός; SC *kȏs* 'blackbird' – cf. Gr κόψιχος; Sn *pískati* 'pipe, whistle' – cf. La *pipāre* 'pule'; possibly R *sosná* 'pine' if akin to La *sapa* 'sap', R *sópli* 'snivel'; R *poléno* 'log' if cognate of Li *liepsnà* 'fire' and OCS prefix *vъz-* – if akin to AS *upp* 'up'. An example of etymological *b* dropped in Sl: OCS *grěsъ* 'row' (1 sg aor) to *grebǫ* (1 sg pres).

A special case is the root represented by OI *psáras* 'feast, meal' and possibly Li *sóra* 'millet'. Both *p* and *s* are preserved in Sl but at the price of a metathesis: R *próso* 'millet'.

The cluster *ps* was still incompatible with the Sl articulatory pattern at the time of the early Sl-Fi contacts. OFi **Vepsi* (Fi *Vepsä*), a tribal name, became in Sl *Vesь*

[2] *v* at this time had the character of *u̯* and functioned as a sonant.

as attested in OR. SC *Osor*, *Cres*, island-names, cf. Gr Ὄψαρα, La *Crepsa* (**Cerps-*) are irrelevant for chronology because *ps* > *s* could have occurred in the coastal Rom dialects.

b) *ts* > *s*: the root **kūt-* as in OI *kuthitas* 'stinking', *kōthayati* 'lets rot' – in Sl with *t* dropped: OCS *kysělъ* 'sour', R *kislyj*;

the root **plet-* as in OI *prắthas* 'breadth', Gr πλάτος – in Sl with *t* dropped: R, Br *plës* 'reach, river pool', U *pléso*, Sk, Cz *pleso* 'the deep';

R, U *čérez* 'across', Br *céraz*, Sn *črêz* ~ *črèz*, SC *črȇz*, Bg *črez* is akin to RChSl *črěsti* 'cut', Li *kertù*, *kir̃sti* and is to be reconstructed as **kert-s* (with *-z* replacing *s* under the influence of the propositions of the type **jьz*, *vъz*, *bez*), etc.

The same applies, of course, to etymological *ds* which was also phonetically *ts*:

the root **r(e)ud'-* as in Gr ἐρυθρός 'red', La *russus* (< **rud'-tos*); in Sl *t* (*d*) is dropped: SChSl *rusъ* 'blond', R, U *rúsyj*, Br *rúsy*, Sk, Cz *rusý*, Sn *rûs*, SC *rȕs*, Bg. *rus*; the same occurred to this root (in zero grade) in U *Ros'* < *Rъsь* (< **Ruds-*), a river-name;

R *kus(ók)* 'piece', P *kęs*, Sn *kôs*, Bg *kəs*, etc. with the same root as Li *kándu*, *kąsti* 'bite'.

Other examples: RChSl *rasnь* 'discord', P *waśń* 'quarrel' vs. U *váda* 'shortcoming', Sn *váditi* 'argue'; OCS *běsъ* 'devil' – cf. La *foedus* 'dreadful', Gr πίθηκος 'ape'; R *músor* 'rubbish' vs. Gr μύδος 'putrefaction', Ndl *mot* 'drizzle'; Cz *řasa* 'eyelash', P *rzęsa* 'eyelash, earring' vs. OCS *rędъ* 'row, order'; the prefix R, Br, U, P, LS, US, Sk, Cz *roz-* 'asunder', OCS, Sk, Sn, SC, M, Bg *raz-* – cf. OI *árdhas* 'part; half', Li *ardýti* 'separate'; OCS *sъto* 'hundred' possibly goes back to **dsumtom* < **dk'm̥tom*.

The loss of *t*, *d* is evident in OCS aorist forms like *čisъ* to *čьtǫ* 'count', *sъmęsъ* to *sъmętǫ* 'put to confusion', *věsъ* to *vedǫ* 'lead', *bljusъ* to *bljudǫ* 'watch over', etc.

The same occurs in clusters including other consonants besides *ts* (*ds*), e.g., in the clusters:

tsn – in Pb *d'ǫ̂sna* (gungsna) 'gum', Sk *d'asno*, Cz *dáseň*, SC *dêsna* with the root **dent-* 'tooth' (Cf. Li *dantìs*, OI *dántam*, acc. sg, La *dentis*, gen sg);

tsl (< *d* + *sl*) – in OCS *myslь* 'thought' vs. Li *maudžiù* 'strive', Gr μῦθος 'speech', etc.

The cluster *ts* was still not tolerated in Sl at the time of the first Slavo-Scandinavian contacts: OR *Rusь* if it is to be derived from OFi **rōtsi* (from OSw *rōþs* (gen sg)).

C. *ks* > *s*. Only examples of *ks* followed by another consonant, a stop, may be cited here because otherwise *ks* > *kx* > *x* (which, of course, can also be considered a simplified consonantal cluster):

R *lástočka* 'swallow', Br *lástawka*, U *lástivka*, SC *lȁstavica*, M *lastovica*, Bg *lástovica* – Li *lakstýti* 'fly', Le *lakstît* (cluster *kst* > *st*);

R *losk* 'shine', OCz *lesk* (gen sg *lsku*), SC *lȁskat* 'flash of lightning', Bg *ləštjá* 'shine' all go back to the root **leuk-*, cf. OPr *luckis* 'log', OI *rōkás* 'light', Av *raōčah-*, Gr λευκός 'white', La *lux* 'light', Go *liuhaþ* (cluster *ksk* > *sk*); cf. in Sl OCS *luča* 'ray'

Note that *ks* before *n* is dropped completely:

OCS *luna* 'moon' goes back to the same root as R *losk* and its counterparts in the other Sl languages, viz. **leuk-* and is reconstructed as **louk-sn-ā*, cf. OPr *lauxnos* 'star' (pl), Av *raōxšna-* 'light', Gr λύχνος 'object shedding light' (La *lūna* underwent the same simplification as the Sl word);

OCS *lono* 'lap, bosom' goes back to **lok*^{w}+*sn*+*om* if it is related to Gr λοξός

'bent, crooked' or to **log'-sn-om* if it had the same root as R *log* 'ravine', *lëg* 'lie' (pret).

OCS *čгьnъ* 'black' vs. Li *Kirsnà*, river-name, OPr *kirsnan* 'black'. OI *kṛṣṇás* (< **kʷrsno-*) supposes the same treatment in the sequence *rsn*.

Of all the consonantal clusters simplification of the type *ps*, *ts*, *ks*, i.e. stop + spirant, is carried out most consistently. Sl shares the simplification of the clusters *ps*, *ts* with Balt although otherwise Balt is much more conservative in its treatment of consonantal clusters. E.g., Sl (R) *rúsyj* corresponds to Li *raũsvas* 'reddish', OCS *kysělъ* to Le *kûsât* 'seethe, boil up', OCS *běsъ* to Li *baisà* 'fright', with *t* (*d*) consistently lost.[3] Discrepancies are observable regarding *ks*, which depends on separate treatment of *s* after *i* and *u* in Sl and Balt. This would suggest a very early chronology for the simplification of *ps*, *ts*, and *ks* in Sl, before the emergence of Sl *x*. On the other hand, cases such as OR *Vesь*, *Rusь* indicate that until the very disintegration of CS the clusters *ps*, *ts* were inadmissible in Sl.

3. Clusters: stop + stop. In contradistinction to the clusters stop + spirant, clusters stop + stop were treated variously in CS and several chronological levels may be distinguished in their treatment. It is necessary to examine each cluster separately.

A. Dental + velar. Examples are available for the voiced cluster *d* + *g* (with etymological *d* or with *d* from *t* by assimilation). The dental stop is dropped, the velar stop preserved. This applies to the position before a vowel as well as before a sonant:

IE **d'(e)ǵ'om* 'earth' (with full grade in Hi *tekan* ~ *dakam*; with zero grade in To A *tkam*; zero grade with metathesis in Gr χθών) – Sl *zem-*, like To B *keṃ*, Gr χαμαί 'on earth', with *d*(') dropped and IE *ǵ'* yielding Sl *z*;

OP and dial *dzięgna* 'scurvy', originally a compound with the first root **dn̥t-*: *dent-* 'tooth' (Cf. OI *dan*, *datás* 'tooth', La *dēns*, *dentis*) + **g'n-* 'rot' (Cf. R *gnit'*, etc.);

OCS *nevěglasъ* 'ignoramus', U *nevíhlas*, originally a compound with the first root **void-* 'know' and the second root **gal(s)-* 'voice'.

The first example may also be analyzed in a different way: it is possible that the initial cluster of **d'ǵ'om* was simplified after *d'* changed into *d* and *ǵ'* into *z*, i.e. in the shape of **dzem-*. In this case it would illustrate not the simplification of a cluster consisting of two stops but of a cluster of the type stop + spirant, the voiced counterpart of *ts*, examined in section 2.

The chronology of the change of *dg* into *g* depends on which of the two possibilities is accepted. If it was *d*(') + *ǵ*(') becoming *ǵ*(') the simplification took

[3] It is possible that initial *ts-* was treated differently in Sl and Balt. To judge by Li *sárgas* 'guard', Le *sar̃gs* in relation to Sl **storg-* (OCS *straž*, R *stórož*, etc.), Balt simplified *ts* into *s* in the initial position also whereas Sl resorted to metathesis. The relationships seem to be reversed in Li *stìrna* 'roe', Le *stir̃na* vs. Sl **sirna* (Cz *srna*, SC *sr̂na*, etc.) but there is no IE evidence of initial **ts-* and the situation is complicated by the confusion of *k* with *k'* (See 9,6) and the discrepancies in intonation between Sl and Balt. The question of initial *ts-* must remain open because of insufficient data.

place before the loss of palatovelars in Sl, that is in early CS. If it was *d* + *z* yielding *z*, the phenomenon is to be considered as having occurred after the loss of palatovelars. Insufficient data leave the situation ambiguous.

B. The opposite order: velar + dental. This case is represented by the examples of *k* + *t*. The treatment was different depending on whether the clusters were followed by *i* or not.

When *kt*-cluster was not followed by *i* its simplification resulted in dropping *k*:

OCS *trǫtъ* 'guard, crowd', OR *trutъ* – Li *trañksmas* 'throng', AS *thringan* 'break, press';
OCS *pletǫ* 'plait', R *pletú*, etc. < **plek'tʹ-*, cf. OI *praśnas* 'plaiting', Gr πλέκω 'plait', La *plectō*, OHG *flehtan*;
R *páut* 'gadfly' < **pa-ǫk-t-*, with the same root as in R *pa-úk* 'spider';
R, Br, P, Sk, Cz *pot* 'sweat' < **poktos*, cf. *pek-ǫ* 'bake';
R *netopýr*, Cz *netopýr* 'bat' < **nekto-pir-*, literally 'night flier', cf. the first of the first of the two roots in OI *naktá-bhih* (instr pl) and Hi *nekuz* < **nekʷt-s* 'night' and with *o*-grade in La *noct-ur-nus*, OHG *nahtigala* 'nightingale'.
Other examples are OCS *letěti* 'fly' as compared with Li *lẽkti* 'fly'; OCS *pętъ* 'fifth' (from which OCS *pętь* 'five' is a back-formation) as compared with Li *peñktas* 'fifth', etc.

In the same root as in R *netopýr'*, **nekt-* ~*nokt-*, *kt* is treated differently in *nokʷt-is* 'night', in the position before *i*. Namely, here **kt* > **tt* > **tj*, i.e. the second part of the geminated *t* assimilated to the following *i*; the newly arisen cluster *tj* joined the old *tj* and followed the further development of the latter, thus giving R *noč'*, P *noc*, SC *nôć*, M *noḱ*, Bg *nošt*, etc. (See 14,5).

There are no indications about when *kt* became *t*. As for *kt* becoming *tj*, this must have taken place in late CS, after the diphthong *ei* became *i*, so that the infinitives in **-kt-ēi* have had the same development, e.g. **pekʷ-tēi* > **petji*, hence OCS *pešti*, R *peč'*, P *piec*, etc. Sk *vianoce*, Cz *vánoce* (OCz *vánoče*) borrowed from OHG *wîn-nahten* never had a *kt*-cluster and its *c* developed not from *tj* but by analogy with Cz *noc*, pl *noci* ~ *noce*, probably as a partial loan translation of the OHG word. There is no reason to think that *kt* changed into *tj* before *e*: if this was so, *pletǫ* as quoted above would have in its present tense conjugation, e.g., in R *pletú* : ⁺*plečëš'* : *plečët*, i.e. of the same type as *pekú* : *pečëš'* : *pečët* (R *pletëš'*, etc.). OCS *ašti* ~ *ašte* 'if', OR *ači* ~ *ače*, OP *jacy* 'only', OSC *aće* is a special case. It goes back to **āt* + *kʷi*, via metathesis of *tk* into *kt* which became *tj* before *i*. This *tj* was transferred in the position before *e*, hence the attested Sl forms which contain the reflexes of *tj*.

The cluster *gd* is attested in OCS adverbs of the type *kogda* ~ *kъgda* 'when'. If it were an old cluster we would expect it to have been simplified into *d*. The forms in *-gd(a)* are post-CS innovations probably based on blending of *-ga*-forms (Cf. Bg *kogá* 'when') and *-da*-forms (Cf. Li *kadà*, OI *kadā́*).

C. Labial + dental: *p* + *t*, *b* + *d*. In the development of the *pt*-clusters two chronological layers may possibly be distinguished. In the older layer *pt* seems to have followed the development of *tt*, i.e. changed into *st*, evidently through the stage of *tt* arisen from an assimilation of *p* to the following *t* : *pt* > *tt* > *st*.

Since *tt* > *st* is an alteration not of CS alone but of East-Central IE as a whole (See 12,3) whereas the change *pt* > *st* is limited to CS, the latter change is to be considered as an early CS repercussion of the earlier transition of *tt* into *st* in a more limited area.

The examples are:

OR *stryi* (*stryjь*) 'father's brother' as brought in connection with OI *pítrvayas*, La *patruus*, Gr πάτρως, OHG *fatureo*, on the assumption of zero grade in CS. Hence **p*H*tr*- > **ttr*- > *str*-;

RChSl *nestera* 'niece', OP *nieściora*, SC *nèstera* compared with OLi *neptẽ* 'granddaughter', OI *naptī́*, Av *naptya*- 'descendant', La *neptis*, OIr *necht*;

OR *Stribogъ*, name of a Sl pagan god, is deduced from **p*H*tḗrb'agos* ~ *p*H*trīb'agos* 'father-god'.

The cluster *st* does not appear, however, in the fourth word having the same root: OCS, OR *netii* 'nephew', SChSl *netьi*, OP *nieć* 'cousin', Sk *neter* 'niece', Cz *neť*. Possibly, the position before *i* conditioned a different development, as in the case of *kt*. But **tt* (from *pt*) did not give *tj*, instead it simply underwent shortening: *tt* > *t*. This is acceptable if the change of *pt* – *i* is ascribed to an earlier period than that of *kt* – *i*. Another possibility is to assume that *#* alternated in the declension of this word with *ō*, and *p* was retained under the influence of those cases where it stood before *o* (cf. OLi *nepōtis*. La *nepōtis*, gen sg), until the time when the change *pt* > *st* stopped operating; later the cluster *pt* in this word along with the *pt*-clusters of more recent formation, became *t*. On the whole, however, the examples are few and etymologically not quite certain. For *stryj* Li has the same cluster, OLi *strūjus*, but for *nestera* it has *pt*: OLi *neptė*.

In later formations *pt* changed into *t*, not *st*, obviously again via *tt*. The examples are:

R, U *djátel* 'woodpecker', Br *dzjácel*, P *dzięcioł*, LS *žešelc*, US *dźećelc*, Sk *d'atel*, Cz *datel*, Sn *dẹ́tel*, SC *dȅtao*, M *detel*, Bg *détel* have the root of R *dolbít'* 'peck'; the original CS form is reconstructed as **dilb-til*-. Hence, after the simplification of *b* + *t* into *t* and dissimilation of the two *l* (See 5, 4) **dimtil*-, later **dętьlъ*[4];

U *kýtycja* 'tassel', P *kita* 'plume', Cz *kytka* 'bouquet', Sn *kíta* 'plait', SC *kȉta* 'bouquet', M *kitka*, Bg *kítka* are derived from **kūptā* from **kūb-tā* belonging to the same root as in R *čub* 'forelock', cf. OHG *scoub* 'sheef', ON *skúfr* 'tassel'.

Obvious instances of lost *p* (*b*) are preserved by the infinitives OCS *teti* 'strike' to 1 sg *tepǫ*, *greti* 'row' to 1 sg *grebǫ*, (*po*)-*črěti* 'scoop' to 1 sg *črьpǫ*, OR *suti* 'strew' to 1 sg *s*(*ъ*)*pu*, cf. US *posyty* 'strewn'. From the examples of the latter type the inference is that if *pt* changed into *st* this occurred before the formation of the Sl infinitive in -*tēi*, while the change of *pt* into *t* occurred after it. This is one more indication of a very early date for the alteration *pt* > *st*. Another indication may be seen in the fact that the root **pt* reconstructed for CS words of the type *stryi*, etc., is represented with zero grade in Av *ptā* ~ *tā*, so that CS zero grade in this root might be related to the time of Sl-Irn (Sarma-

[4] From the same root and also with *b* lost is derived the word represented by R *dolotó* 'chisel', from **dolb-tom*.

tian and Scythian) contacts. As for the time of *pt* > *t* another chronological clue is given by Rm. In some words Rm has *t* from *pt*: *boteză* 'baptize' from Gr βαπτίζω, as well as from *kt*: *arătáre* 'vision', from La **arrectare*. In other cases Rm preserves its *pt* (from both *pt* and *kt*): *șápte* 'seven', from La *septem, drept* 'right, straight', from La *directus*. It may be assumed that Rm preserved *pt*-clusters in its older words but succumbed to the Sl trend toward the simplification of *pt* and *kt* in the words of more recent date. This would mean that the change *pt* > *t* was still operating in CS at the time of first Sl-Rm contacts, i.e. in the sixth – seventh centuries.

The voiced cluster *bd* seems to be represented only by CS **sebdm-* 'seventh' (Cf. Gr ἕβδομος): OCS *sedmъ*, P *siódmy*, LS *sedymy*, US *sedmy*, Sk *siedmy*, Cz *sedmý*, Sn *sẹ́dmi*, SC *sêdmī*, M *sedmi*, Bg *sédmi*, with *d* from *bd*. More about this word in section 4.

4. Clusters: stop + nasal sonant. The nasal sonants which are stops with respect to their articulation in the oral cavity often affect the preceding stops accordingly. We shall call them occlusive sonants, in contradistinction to non-occlusive sonants *r, l, v* (*u̯*), *j* (*i̯*). As a rule labial and dental stops, that is *p, b, t, d* are dropped before them. The velar stops before nasal sonants are preserved as a rule unless they occur in clusters of three components.

A) Labial stop + nasal sonant. The clusters *pn, bn, pm, bm* are involved theoretically. Yet the cluster *bm* occurred in prefixation only, e.g. OCS *omyti* 'wash' from *ob-myti*; the cluster *pm* did not occur. The clusters *pn, bn* instead, are represented by several examples of which some are quite reliable:

OR *toronomь* 'suddenly', R dial. *tóron* 'attack' has the same root as R *toropít'* 'hurry' and is reconstructed as **torpn-*;

R *lun'* 'hen-harrier' goes back to **loupn-*; it is akin to R *lupít'* 'flay', cf. OI *lōpā* 'a predatory bird';

OCS *sъnъ* 'sleep' belongs to the family of OCS *sъpati* 'sleep' and the original cluster *pn* is attested by Li *sãpnas* 'sleep', Le *sapnis*, OI *svápnas*, Av *χvafna-*, Gr ὕπνος, La *somnus*;

P *koń* 'horse' if it is connected etymologically with (*s*)*kopiti* 'castrate' or with *kobyla* 'mare': **k^{w}opn-* or **kobn-*;

R *drjan'* 'rubbish'; the root presumably **d'remb'-* as in R *drjáblyj* 'flabby', cf. Li *dramblỹs* 'paunch';

SChSl *dъno* 'bottom', R *dno* is a cognate of Li *dubùs* 'deep, hollow', Go *diups*; both developed from **d'ubn-*.

The loss of *p* and *b* before *n* is self-evident in many verbs with the suffix *-nǫ-*, e.g. R *okunút'* 'dip' vs. *kupát'* 'bath', R *l'nut'* 'cling' vs. *lepít'* 'paste', R *tonút'* 'sink' (P *tonąc*, LS *toniś*, Sk *tonút'*, Cz *tonouti*, Sn *tóniti*, SC *tònuti*, M *tone*, Bg *tə̀na*) vs. *topít'* 'sink' (transitive), OCS (*sъ*)*gъnǫti* 'bend' to *sъgъbati*, etc. If in the attested Sl languages there are verbs with *p* or *b* before the *-nǫ*-suffix they result from later restorations, e.g. R *lípnut'* 'cling'. Some of these restorations are as early as OCS, e.g. *gybnǫti* 'perish', cf. R. *gíbnut'* but Br *hínuc'*, U *hýnuty*, P *ginąć*, etc. These restorations belong to the histories of the individual Sl languages, not to CS.

B) Dental stop + nasal sonant. The clusters *tn*, *dn*, *tm*, *dm* all lose their first components:

a. *t* + *n*: R *lytát'* 'idle'; with full grade of the root vowel Sn *lútati* 'go slowly', SC *lútati* 'err', M *luta*, Bg *lútam se*, cf. Gr (Arc) λεύτων 'by negligence', has the root final consonant *t*, which is dropped in R *lynját'* ~ *otlýnivat'* 'shirk';

R *očnút'sja* 'regain consciousness', Br *pračnúcca*, U *pročnútysja* correspond to Li *at-jutaũ* 'feel' (pret) and go back to **ot-jut-no*N-*tēi*. Cf. presence of *t* in R *očutít'sja* 'find oneself'. Sk *ocitnúť* and Cz *octnouti se* 'find onself' have *t* restored from other forms where it preceded a vowel.

b. *d* + *n*: R *mólnija* 'lightning', from **mld'nī*, cf. OPr *mealde*, Cym *mellt* (< **meld'nā*);

RChSl *bronъ* 'white, dappled', P dial *brony* 'bay', Cz *brůna* 'white or grey horse' < **brod'n-*, cf. OI *bradhnás* 'reddish, yellow';

Other examples are OR *věno* 'dowry' as compared with Gr ἕδνον 'wedding gift'; R dial. *grun'* 'a trot', U *hrun'* 'hill' as compared with R *grud'* 'breast'; possibly R *trunét'* 'chaff' if it belongs to *trud* 'work; trouble'. The loss of *d* is especially evident when the doublets like U *póvin'* ~ *póvid'* 'flood' (OR *povonь*) are attested (the root as in *vodá* 'water'), and in the verbs with the *-nǫ*-suffix, as R *stý(nu)t'* 'get cold' (with *dn* restored in Cz *stydnouti*), P *brnąć* 'wade' – cf. R *bredú* (1 sg), SC *prȅnuti se* 'jump up' to *prȅdati* 'be afraid', R *vjánut'* 'fade' to *uvjadát'* (with *d* restored in P *więdnąć*, US *wjadnyć*, Sk *vädnuť*, Cz *vadnouti*).

c. *t* + *m*: OCS *vrěmę* 'time', cf. OI *vártma* 'rut'; cf. OCS *vrъtěti* 'turn'.

d. *d* + *m*: SC *grȕmēn* 'lump' vs. *grȕda* 'heap', cf. La *grandis* 'big', Gr βρένθος 'pride';

R *výmja* 'udder', P *wymię*, Cz *výmě*, SC *vȉme*, cf. OI *ū́dhar*, Gr οὖθαρ, La *ūber*, OHG *ûtar* (*v-* is prothetic in Sl), from **ūd'-mēn*:

OCS *jamь* 'eat' (1 sg), R, Br *em*, U *jim*, P *jem*, LS, US *jěm*, Sk *jem*, Cz *jím*, Sn *jẹ́m*, SC *jȇm*, Bg *jam* – cf. R *edá* 'food' and, on the other hand, Li *édu*, Le *ēdu*, OPr *īst*, OI *ádmi*, Arm *utem*, Gr ἔδω, La *edō*, Go *itan*.

Further examples: OCS *plemę* 'kin' vs. *plodъ* 'fruit'; R *žimolost'* 'honeysuckle' if it goes back to **g'īd-* ~ *g'eid-* 'goat' and **mlg'-* 'milk, suck'; OCS *ruměnъ* 'red' vs. Li *raũdas* 'red'; OR *desjama* 'ten' (dat-instr du) if it is not a misspelling.

A special case is CS word for 'seventh' (See 13,3). Its IE form **septmos* (Cf. OPr *septmas*, Le *septîtais*, OI *saptamás*, La *septimus*) in two IE language groups occurs with the voiced *pt*-cluster: Gr ἕβδ(ο)μος, CS **sebdmos*. The precise reasons for this voicing unusual before *m* are unknown. An assumption was made that it was dialectal in CS itself, Ka dial *setmə* 'seventh', *setəm* 'seven' ONP *sietem* (but never in the ordinal!) preserving the oldest situation (Nitsch, Stieber). It is, however, more likely that *t* in the Ka forms is due to assimilation to following syllabic *m* which was voiceless in final position. Whatever the reasons for the rise of the cluster *bdm*, its anticipated subsequent development is the loss of *b* before *d*, followed by the loss of *d* before *m*, viz. *bdm* > *dm* > *m*. This is represented by R dial. *sëmyj* (standard R *sed'mój* being considered ChSl), Br *sëmy*, U *s'ómyj*. However, all the other Sl languages preserve *d*: OCS *sedmъ*, P *siódmy*, LS *sedymy*, US *sedmy*, Sk *siedmy*, Cz *sedmý*, Sn *sẹ́dmi*, SC *sȇdmī*, M *sedmi*, Bg *sédmi*. It cannot be assumed that the preservation of the cluster *dm* in this word was caused by a CS dialectal insertion of a vocalic glide between *d* and *m*, as occurred with the modern Cz (optional) forms *sedm* ~ *sedum*, *osm* ~ *osum* and as is standard in M *sedum*, *osum*. Such an assumption

would raise the unanswerable question of why this vocalic glide, if it existed in CS, was never recorded in OCS. The real reason for retaining *dm* must rather be sought in morphology: the numeral denoting 'seven' was probably subjected to a tendency toward symmetrical structure of consecutive numerals, to be more exact, toward anticipating certain features of the following numeral. Because of this tendency, IE **neu̯n-* 'nine' became in Sl **deu̯n-* under the influence of **dek'm-* 'ten', cf. OCS *devętь* like *desętь*, and likewise *sedm-* dialectally escaped simplification into *sem-* under the influence of the model of *osm-*, also ending in a cluster with *m* as its final component (the clusters *sm* being preserved normally).

The cardinal numeral follows the pattern of the ordinal: Br *sem*, U *sim* vs. OCS *sedmь*, P *siedem*, LS *sedym*, US *sedom*, Sk *sedem*, Cz *sedm*, Sn *sę́dem*, SC *sȅdam*, M *sedum*, Bg *sédem*. This is not surprising: all the numerals from five to nine are derived from the ordinals. Only R *sem'* deviates, thus showing that *sed'mój* is not a genuine R form.

The division of CS dialects in those with *sem-* and those with *sedm-* is one of the earliest facts of CS dialectal developments available to our analysis. Its importance is, however, minimal. It does not result from any independent phonetic tendency but from an interplay of morphological factors, and it concerns only one word.

C) Velar stop + nasal sonant. The two-component clusters *kn*, *gn* (clusters *km*, *gm* are virtually unknown) have been kept phonetically intact, e.g.:

OCS *isęknǫti* 'be drained', R *issjaknut'*, P *siąknąć*, US *saknyć*, Sk *siaknut'*, Cz *sáknouti* 'trickle', Bg *sékna*;
OCS *agnę* 'lamb', R *jagnënok*, Br, U *jahnjá*, P *jagnię*, LS *jagnje*, US *jehnjo*, Sk *jahňa*, Cz *jehně*, Sn *jágnje*, SC *jȁgnje*, M *jagne*, Bg *ágne* – cf. La *agnus*, etc.

Cf. also OCS *ognь* 'fire', *stegno* 'thigh', *gnesti* 'press', *gniti* 'rot'. If there seem to be examples of *gn* simplified to *n* they occur in verbs with the suffix *-nǫ-* and are due to analogy with verbs of the same type which drop their labial and dental stops before this suffix: R *tjanút'* vs. *-tjagát'* 'pull' like *zasnút'* vs. *zasypát'* 'fall asleep' and *kínut'* vs. *kidát'* 'throw'. Cf. also SC *zàbrinuti* 'cause anxiety' vs. *brȉga* 'trouble' and particularly often in LS: *lanuś se* 'lie', *sěnuś* 'reach', etc. The secondary character of these forms is shown by the fact that the simplified clusters only appear in individual languages and even then are limited to verbs. E.g., the counterpart of R *tjanút'* 'pull' in other Sl languages is : Br *cjahnúc'*, U *tjahnúty*, P *ciągnąć*, LS *sěgnuś*, US *ćahnyć*, Sk *tiahnut'*, Cz *táhnouti*, Sn *tę́gniti se* 'spread', SC *(na)tégnuti* 'pull', Bg *tégna* 'am heavy'. U river-name *Stúhna* which has the same root as R *stýnut'* 'get cool' reveals the older form with respect to the preservation of the cluster *gn*.

The only environment in which *kn* yielded *n* phonetically is the three-component cluster *skn*, e.g.:

OCS *prěsnъ* 'unleavened', R *présnyj*, Br *présny*, U *prísnyj*, P *przasny*, Sk *presný*, Cz *přesný*, Sn *prę́sen*, SC *présan*, M *presnek* 'unleavened bread', Bg *présen* – cf. Li *prė̃skas* 'unleavened;
OCS *prisnъ* 'ancestral, steady' – cf. La *prīscus* 'ancient';

OCS *těsnъ* 'narrow', R *tésnyj*, Br *césny*, U *tisnýj*, P *ciasny*, LS *šěsny*, US *čěsny*, Sk *tesný*, Cz *těsný*, Sn *tę́sen*, SC *tésan*, M *tesen*, Bg *tésen* – cf. ChSl *tiskati* 'press', etc. Cf. also OCS *jasnъ* 'clear' vs. Li *áiškus*. For *gn* in the cluster *zgn* see 14,2.

5. Clusters with *v* (*u̯*). The phoneme traditionally denoted /v/ was bilabial in CS: [w] or [u̯]. It was positionally conditioned if it functioned as a vowel [u] (between consonants, the type C*u*C), as a second component of diphthongs (after a vowel, type CV*u̯*C) or as a consonant. The latter function was assumed after a consonant before a vowel (type C*u̯*VC), and before a consonant, usually *l* or *r*, in word initial position (type *u̯*C). It is to be assumed that consonantal [u̯] in clusters was generally liable or prone to be dropped. However the data are insufficient, uncertain, or partially contradictory. We shall consider the three cases separately: *v* + *l*, *v* + *r*, both word initially, and, thirdly, *v* between a consonant and a vowel.

A. *v* + *l*. Only two examples can be presented:

R, Br *lisá* 'fox', U *lys*, P *lis*, LS, US, Cz *liška*, Sk *líška*, Sn *lìs*, SC *lȋs*, M *lisica*, Bg *lisíca*, from **vleips-*, cf. La *volpēs* ~ *vulpēs*, Gr ἀλώπηξ. Balt like Sl has forms without *v-*: Li *lãpė*, Le *lapsa*, OPr *lape*. The whimsical relations in the vocalism of the words cited are attributable to taboo motives;

U *líska* 'hazel nut', P *laska* 'whip, stick', LS, US *lěska* 'hazel', Sk *lieska*, Cz *lís-ka*, Sn *lę́ska*, SC *léska*, M *leska*, Bg *leská*, from **vloisk-*, cf. OI *vlēṣkas* 'knot, loop', Ir. *flesc* 'rod'. Length in Sk and Cz contradicts this etymology but it may have developed secondarily. Nevertheless, the etymology is not quite certain (Cf. possible connection with *lěsъ* 'forest').

There are thus no unambiguous data in favor of the assumption of *vl-* yielding *l-*. However one certainty is that CS, unlike the other IE languages, had no words beginning in *vl-*. This makes the theoretical change *vl-* > *l-* plausible.

B. *v* + *r*. The number of available examples is a little larger but the correspondences are still unprecise or the etymologies ambiguous. The only positive fact is that no CS word, to our knowledge, began in *vr-*. The pertinent data are:

OCS *rana* 'wound', R, Br, U, Cz, Sn, Bg *rána*, P, LS, US, Sk, M *rana*, SC *rȁna*, from **vrōnā*, cf. OI *vraṇás* 'wound' (with a short vowel, however!), Alb. *vras* 'kill' (1 sg);

OCS *rano* 'dawn', R, U, Sk, Cz, Bg *ráno*, Br *rána*, P, LS, US, M *rano*, Sn *rân*, SC *rȁno*, from **vrōd'no-*, cf. OI *várdhatē* 'raise, grow', *ūrdhvás* 'tall', Gr ὄρθρος 'dawn' (< **vord'ro-*). If the etymology is correct OCS *rodъ* 'kin' and its cognates in other Sl languages belong to the same root, cf. OI *vrádhant* 'protruding', Av *vərəδaiti* 'grow', Gr Dor βορθός 'straight';

OCS *rotiti sę* 'swear', OR, P *rota* 'oath', US *roćić so* 'swear', Cz *rotiti*, Sn *róta* 'oath', SC *ròta*, from **vrot-*, cf. OI *vratám* 'statute, vow', Av *urvāta-* 'law', Gr Aeol and Elian βράτρᾱ 'saw', La *verbum* 'word', Go *waurd*, Li *var̃das*. Most non-Sl parallels have a vowel of a different grade and attempts have been made to consider Sl *rota* as a derivative of the root *rek-* 'say' with *t* from *kt*.

Cf. also OCS *rězati* 'cut' as compared to Gr Lesb ϝρῆξις 'break'.

CS shared its aversion to initial *vr-* (as well as *vl-*, see Balt correspondences to *lìsa* 'fox' above) with Balt, cf. Li *rasmė̃* 'harvest', Le *rads* 'relative' as related to Sl *rodъ* 'kin'.

The assumption that in Balt and Sl *vl-*, *vr-* were simplified into *l-*, *r-* is often referred to as Lidén's law.

C. *v* after a consonant. Consonantal clusters with *v* had certain peculiarities in their simplification. The component dropped was not the first one, as customary in CS, but *v*, i.e. the second element of the cluster; there were cases of simplification not only after stops but also after *s*, that is, as *v* may be considered a spirant, in the combination of two spirants; finally, in a great many cases the lost *v* has been restored subsequently. This was possible in roots where it alternated with other forms in which *u*, as a full-fledged vowel or as a part of a diphthong, reappeared. Therefore, the distribution in the attested Sl languages is not expected to be quite consistent. The following types of consonantal clusters come into consideration:

a) Labial stop followed by *v* : *b* + *v* > *b*, e. g. OCS *bě* 'be' (2–3 sg aor) from **b'u̯ēt*, cf. *byti*, with *y* from *ū*;

OCS *běgati* 'run' if cognate of Gr φεύγω 'flee', La *fugiō* (the Sl form from **b'u̯ēg-*, a questionable etymology. See 7, 4).

Numerous examples are supplied by word derivation with the prefix *ob-* when the roots began in *v*, e. g. OCS *obilъ* 'abundant', R *obíl'nyj*, Sk *obilie* 'corn', Cz *obilí*, Sn *obîl(en)* 'abundant', SC *òbil*, Bg *obílen* – vs. OCS *iz-vilie*, cf. Li *výti* 'pursue', OI *vīlíṣ* 'delight', La *vīs* 'strength');

OCS *obida* 'injustice', R, Bg *obída* 'grievance', cf. OCS *za-vida* 'envy'.

Other examples are OCS *oblastь* 'power; region' – *vlastь* 'power' (CS root **vold-*); *oblakъ* 'cloud' – *vlačiti* 'pull'; *oběštati* 'promise' – *věštati* 'announce'; R *óbod* 'rim' – – *vodít'* 'lead'; *obórka* 'frill' – *vórot* 'collar'; SC *ȍbao* 'round', Sn *óbel*, from **ob-vil-*, cf. *vâl* 'wave', etc., cf. Li *apvalùs* 'round' (but, after *b*, *v* is also lost in Balt); possibly Sn. *obàd* 'gadfly', SC *ȍbād* – OI *vadhayati* 'strike' (In other Sl languages deviating forms with *b* lost and *v* retained: P *owad* 'insect', etc. For another etymological possiblity see 6,5).

b) Dental stop followed by *v*. There are several instances of *tv*, *dv* changed into *v*, viz.: 1 du of athematic verbs with stems in *-d*: *ěd-* 'eat', *věd-* 'know', possibly *dad-* 'give' in OCS *ěvě*, *věvě*, *davě*, OCz *jievě*, etc.; and into *t* (*d*): acc sg of pron *ty* (**tū*), OCS *tę*, P *cię*, etc. corresponding to OI *twām*, Av θwąm, etc. (alternation *ū*: # before a vowel). These simplifications, however, stem from an interplay of morphological factors. The verbs in question had the truncated stem *ě-*, *vě-* in 1 sg and 1 pl before *m* (See section 4), and this stem was also generalized for 1 du. The form of the acc *tę*, without *v* (exactly corresponding to OPr *tien*), was taken from the gen **teu̯e* ~ *teve* (alternation *ū* : *eu*). When in the latter form *u̯* was replaced by *b*(') transferred from dat. where it was originally a desinential suffix (Cf. OI *tubhyam*), the form *teu̯e* underwent a morphological perintegration (metanalysis): *teu̯-e* > *te-be*, and thus the new root without *v* was isolated.

Whenever morphological factors did not interfere, the clusters *tv*, *dv* have been preserved, as in OCS *tvoi* 'thine', *tvarь* 'creature', *tvrьdъ* 'hard', *klętva* 'oath' and other words with the suffix *-tv(a)*; *lędvie* 'loin', *dvorъ* 'court', *dvizati* 'move'[5], etc.

[5] SC *dȉgnuti* 'raise', M *digne*, Bg *dígam* ~ *vdígam* show a secondary, regional loss of *v*, possibly through metathesis, but not necessarily so: cf. M *stori* 'do' < *sъtvori*.

c) Velar stops followed by *v*. The distribution seems to be inconsistent: in some words the clusters *kv*, *gv* are preserved, in others *v* is lost. In the following instances *kv* and *gv*-clusters did not undergo any simplification:

U *kvápytysja* 'hurry', P *kwapić się*, Cz *kvapiti* – in alternation with (OCS) *kypěti* 'bubble, spout', etc.;
OCS *kvasъ* 'sour drink', R, Br, U, Sk, Cz, M, Bg *kvas*, P, LS, US *kwas* 'leaven', Sn, SC *kvâs*, – in alternation with (OCS) *kys-ělъ* 'sour';
U *kvítka* 'flower', P *kwiat*, LS, US *kwět*, Sk *kvet*, Cz *květ* – cf. Le *kvitêt* 'shine';
R dial. *gvázdat'* 'soil', P dial. *gwazdać* 'work sloppily', Sn dial. *gvazdati* 'talk nonsense' – in alternation with U *hydkýj* 'disgusting', P *gid* 'muck, filth'.

The simplfied cluster is found in R *kópot'* 'soot', U *kíptjava*, P *kopeć*, US *kopć*, Cz *kopet* – cf. Li *kvãpas* 'breath, whiff', Gr κ(ϝ)απνός 'smoke, vapor', La *vapor* 'vapor, damp';
OCS *golěnь* 'shin', R *gólen'*, Br *halënka*, U *holínka*, P *goleń*, Sk *holeň*, Cz *holen*, Sn *golên*, SC *gȍlen* – cf. Gr γύαλον 'cavity', γυῖον 'limb'.

In still other examples both non-simplified and simplified clusters are represented in various Sl languages, sometimes doublets even exist within the same language:

R *skvoréc* 'starling', SC *čvórak* vs. P dial *skorzec*, LS, US *škórc*, Pb *st'örcé* (styêrtze) (pl), Sk, Cz dial. *škorec* while doublets are found in Sn *skórec* ~ *škvórec*, Bg *skvoréc* ~ *skoréc*;
OCS *gvozdь* 'nail', R *gvozd'*, Br *hvozd*, U *hvizdók* 'peg, nail', OP *gwozd* 'mountain forest' (at present place-names of the type *Gwozdy*), Cz *hvozd* 'forest', SC dial. *gvȍzd* 'iron' – vs. LS *gózdź* 'forest', US *hózdź*, Sn *gòzd*, Bg *gózdij* 'nail' – cf. MHG *quast* 'bunch'.

The forms which lost *v* did not develop phonetically. They arose from an interplay of bilateral vowel alternations, and this explains why the distribution is inconsistent. In a root of the type G*u*C- with the full grade of the type G*uo*C-, the connection of *u̯* with *u*, *ū*, *ou*, etc. could have been readily lost and the presence of *v* become unmotivated (a kind of unduly inserted consonant!); as a result *v* was liable to be dropped. Before $\widehat{{}_{o}a}$, where *u̯* was prone to merge with the labialized on-glide of the following vowel the loss occurred most easily. It is not accidental that the examples with *v* dropped are all with a following *o* or *a* (< $\widehat{{}_{o}a}$).

d) Spirants + *v*. The pertinent clusters *sv*, *xv* (as well as the rare *zv*) do not change phonetically. However, a few roots lose *v* completely or partially after *s* or *x*. This occurs under the same conditions as in the clusters *kv*, *gv* and is also caused by the interplay of bilateral vowel alternations. Thus, the relation between OCS *sę* and *svoi* is the same as between *tę* and *tvoi*.

For the preserved clusters cf. OCS *svekrъ* 'father-in-law', *světъ* 'light' (in both cases *s* < *k'*), *svinija* 'pig', OR *Svarogъ*, 'a pagan god', R *svéžij* 'fresh', *sverbét'* 'itch'; OCS *xvala* 'praise', *xvatati* 'catch', etc. It is more important to examine cases in which *v* is lost. In one group *v* is lost in all the attested Sl languages. The examples are not numerous:

OCS, Sk, Cz, M *sestra* 'sister', R, U, Bg *sestrá*, Br *sjastrá*, P *siostra*, LS *sotša*,

US *sotra*, Pb *séstră*, Sn *séstra*, SC *sèstra* – vs. OPr *swestro*, OI *svásar-*, Av *χvayhar-*, Arm *k'oir* (< **svesōr*), La *soror*[6], Go *swistar*;

OCS *sokъ* 'juice', R, Br, P, LS, US, Bg *sok*, U *sik*, Sn, SC *sôk* – vs. Le *sveķi* 'resin', Gr ὀπός 'sap', Alb *gjak* 'blood', with lengthened grade La *sūcus* 'sap';

OCS *šestь* 'six', R *šest'*, Br *šèsc'*, U *šist'*, P *sześć*, LS *šesć*, US *šěsć*, Sk *šest'*, Cz *šest*, Sn, SC *šêst*, M, Bg *šest*, from **ksvek's*, cf. Av *xšvaš*.

Instances in which Sl still has unsimplified clusters along with simplified ones are more numerous:

OCS *svarъ* 'struggle', R *svára* 'argument', Br, U *svárka* 'quarrel', P, LS, US *swar*, Sk, Cz *svár*, Sn *svâr* 'reproof', Bg *svára* – vs. R *ssóra* (**sъ-sora*), Sn *osǫ́ren* 'unfriendly', SC *ȍsōran* 'irascible' – cf. Go *swaran* 'swear', ON *svara* 'answer', Gr ἑρμηνεύς 'commentator', La *sermō* 'talk';

ChSl *svepetati* 'stir', OR *svepatisja* 'swing', Sn *svẹ́pati* 'stagger' – vs. Sk *sepkat'* 'trot' – cf. Li *sùpti* 'swing, rock';

R, U *xvóryj* 'sick', Br *xvóry*, OCz *chvorý* – vs. U dial. *xóryj*, P, LS, US *chory*, Pb *xörə* (chera), Sk, Cz *chorý* – Av *χvara-* 'wound', OHG *sweran* 'hurt';

OCS *xotěti* ~ *xъtěti* 'wish', R, U *oxóta* 'wish', P, Sk, Cz *ochota* – vs. R dial. *oxvóta*, cf. OCS *xvatati*, (*po*)*xytiti* 'catch, rob';

R, Br *xvost* 'tail', U *xvist*, P, *chwost*, Sk, Cz *chvost*, Sn *hvôst*, Bg *xvošč* 'pewter grass' – vs. OP *chost* 'bunch', LS *chóšć* 'broom', US *chošćo*, Sn *hộst* 'wood', SC *hȍst* 'grape-stalk' – cf. Arm *χot* 'grass' (< **k'vodo-*);

R *xvója* 'pine needle', Sk *chvoja* 'brushwood', Cz *chvoj* 'twigs', SC *hvója*, Bg *xvoína* 'fir twigs' – vs. P *choina* 'fir', LS, US *chójca*, Sn *hvộja* ~ *hộja* 'coniferous brushwood' – cf. Li *skujà* 'pine needle'

The case of R, U *soróka* 'magpie', Br *saróka*, P, LS, US *sroka*, Sk, Cz *straka*, Sn *sráka* vs. Pb *svorkó*, SC *svràka*, Bg *svráka* is dubious because most IE languages have forms without *v* (Cf. Li *šárka*, OPr *sarke*, OI *śārī* 'a certain bird', Gr κόραξ 'raven', La *cornix* 'crow'), except Alb *sorrë* (< **svorka*).

In the case of vacillations between *kv*, *gv* and *k*, *g* respectively, the latter variant always preceded *o*. This is also prevalent in the instances of *s*, *x* from *sv*, *xv*, obviously for the same reason: merger of *u̯* with the on-glide of the following *͡ₒa* (*s*/*x* + *u̯* + *͡ₒa* > *s*/*x͡ₒa*). Here, however, there are also a few instances of *v* lost, before *e* (OCS *sestra*, *šestь*, Sk *sepkat'*). At least in some of these (*sestra*, *sepkat*) *e* alternated with *o* and, thus, the forms without *v* might have conceivably arisen first before *͡ₒa* (to develop later into *o*). Problem of *šestь* probably is pre-Sl.

Thus, *v* was lost word-initially before *l* and *r* and word-internally after labial stops. After dental and velar stops as well as after spirants it was spared phonetically. But in many roots it was lost in these clusters, too, owing to the pressure of alternating forms without *v* (*u̯*).

6. Clusters: consonant + non-occlusive sonants (*l*, *r*). As a rule both stops and spirants have been preserved before *l* and *r* in two-member clusters. As the situation is simple one or two examples (word-initial and word-internal) for each combination would suffice (all examples are OCS unless specified otherwise):

[6] In La *sv-* > *s-* regularly before rounded vowels.

labial stops + *l*, *r*: *pl*, *bl*, *pr*, *br*: *plakati* 'weep', *toplъ* 'warm'
blědъ 'pale', SChSl *jablъko* 'apple'
pręsti 'spin', *koprъ* 'dill'
bratija 'brethren', *rebro* 'rib'

dental stops + *r*: *tr*, *dr*: *trava* 'grass', *xytrъ* 'agile'
drugъ 'friend', *štedrъ* 'generous'
(the problem of *tl*, *dl* clusters is examined separately in section 7)

velar stops + *l*, *r*: *kl*, *gl*, *kr*, *gr*: *klęti* 'curse', *stъklěnica* 'wineglass'
ględati 'see', *ǫglь* 'coal'
krěpъ 'strong', *mokrъ* 'damp'
grǫbъ 'rough', *igrati* 'play'

x + *l*, *r*: *xlębь* 'waterfall', *dręxlъ* 'mournful'
xrьbьtъ 'ridge'

s + *l*: *slava* 'glory', *myslь* 'thought'[7]

The cluster *s* + *r* participated in a special development shared with Le, OPr, Alb, Germ, partly Ce (Bret) and probably Thra and Ill. In these languages *t* was inserted between *s* and *r*: *sr* > *str*. In CS *zr* likewise became *zdr*. This development of the cluster *sr* could have been common to all the tribes mentioned since they could have been in contact with each other directly or indirectly, but this was not necessarily the case, because the change of *sr*, *zr* into *str*, *zdr* is banal. It is conditioned merely articulatorily and does not depend on, or influence, the phonemic system of the language in which it occurs. It was possibly still productive in relation to *zr* in the latest period of the existence of CS, to judge by the OCS rendition of Gr *zr* as *zdr* and by the insertion of *d* at word boundaries between the final *z* of the preceding word (usually the preposition *iz*) and the initial *r* of the following word, e.g. *Izdrailь* (Su), *iz-d-rěky* (ES) 'from river', *iz-d-rǫky* (PS) 'from hand'. As for *sr*, the converse is true, OCS does not insert *t* in the newly formed clusters of this type (They arose internally because of the metathesis of *CorC*, *CerC*-groups, as *srěda* 'Wednesday' and possibly on word boundaries). It is therefore possible to assume that the change *sr* > *str* belonged to an early period of CS (but not before the loss of palatovelars for *s* from *k'* is not treated differently from IE *s*), while the alteration *zr* > *zdr* would fall into late CS.[8] However this is no more than a possibility. One must bear in mind that the *zr*-clusters are of an earlier date in OCS than *sr* clusters: the former existed before the loss of *jers* and the metathesis of *CorC*, *CerC* groups; the latter arose later. Furthermore, the entire development *zr* > *zdr* might have been only dialectal, Moravian or Bulgaro-Macedonian, not necessarily Common Sl. If one adheres strictly to the facts we can only state: 1. In CS *sr* > *str*, a development common with a group of other IE

[7] OCS *žila* 'vein', etc., is not identical to Li *gýsla* 'vein' in word structure despite the widespread etymology that equalizes them. Only the root *g^{w}'ī- is the same.

[8] Later, individual Sl languages had other waves of *sr* > *str* and *zr* > *zdr*, cf. P *zdrada* 'treason', Sk *stred* 'middle', Cz *střed*, OSC *stracinexъ* 'Saracen' (loc pl, 1417), but these changes have nothing to do with CS. For example, Cz as late as the fourteenth century had *sr*-clusters intact: OCz *prosrzied* 'in the midst'.

languages; this could have been an early CS development. 2. In OCS *zr* > *zdr*; this could be a late Sl development.

Examples of *str* from *sr*:

R *jástreb* 'hawk', Br *jástrab*, U *jástrub*, P *jastrząb*, LS *jastśeb*, US *jatřob*, Sk *jastrab*, Cz *jestřáb*, Sn *jâstreb*, SC *jȁstreb*, M *jastreb*, from **ōk'r-* 'swift' (as in OI *āśúṣ* 'swift', Gr ὠκύς, La *ācer* 'sharp') + *-ṃb'os*, a suffix as in OCS *golǫbь* 'pigeon');

OCS *sestra* 'sister', etc. (See section 5), from **sve-sōr* : *sve-sr*, cf. Li *seseȓs* (gen sg), OI *svásar-*, Av *χvaŋhar-*, Arm *k'oir* (< **svesōr*), La *soror* – vs. OPr *swestro*, Go *swistar*, etc.;

OCS *zaustra* (PS) 'in the morning', OP *justrzenka* 'dawn', M dial *zastra* 'tomorrow' – cf. Li *aušrà* 'dawn', OI *usrás* 'matutinal', Gr αὔριον 'tomorrow' (< **ausr-*), OHG *ost(a)ra* 'east'.

Two more examples are OCS *struja* 'stream' vs. Li *sraujà*, *ostrovъ* 'island' vs. Li *sravà* 'flaw'.

The three-component consonantal clusters were partly preserved, partly simplified into two-component clusters. Three types can be distinguished:

a. Type spirant + stop + *r* represented by *spr*, *str*, *skr*. These clusters have been preserved, e.g.,

OCS *vysprь* 'up', from *vъ-iz-prь*, the latter a cognate of *pero* 'feather', *pariti* 'soar';
strěla 'arrow' – cf. Li *strėlà* 'arrow', OHG *strāla*;
iskra 'spark' – cf. Li *áiškus* 'clear'.

b. Type spirant + stop + *l* actually represented by the cluster *stl*, which loses its *t* : *stl* > *sl*, e.g.,

OCS *lětoraslь* 'shoot, sprig' – cf. *lěto* 'summer' and *rast-* 'grow'.

There are numerous examples with the suffix *-tl(o)* when preceded by *s* from IE *s* or from *t*, *d* (See 12,3), for instance: R *máslo* 'butter', based on *maz(ati)* 'smear' + *-tlo*, OR *sъvjaslo* 'bundle' based on *sъvęzati* 'tie' + *-tlo*, R *vesló* 'oar', cf. *vezú* 'carry, cart' (from **veǵ'-tlom*), etc.

c. *r* or *l* + consonant + *r* or *l*. These clusters are prone to dissimilations. A general rule cannot be deduced because of the scarsity of examples. The following may be cited:

**gʷeldlom* 'sting'. By dissimilation the first *l* changed into *n*, yielding later a nasal vowel: P *żądło* (Ka *žanglo*). Pb *zǫdlü* (sûndli) – cf. Li *gélti* 'prick', Le *dzeȋt*, Gr δέλλιθες 'wasps'.

Dissimilation of sonants was a possibility also in the cases when a vowel followed the middle consonant. The result was the loss of the second sonant. This was a tendency, however, not a rule, and there were dialectal variations. Cf. OCS *bratrъ* ~ *bratъ* 'brother', LS *bratš*, US, Cz *bratr*, OSn *bratr* (FrFr) vs. R, Br, U, P, M, Bg *brat*, Sn *bràt*, SC *brȁt*, cf. Li *broterė̃lis*, Le *brãtarĩtis*, OPr *bratrīkai* (dimin.), Av *brātar-*, Gr φράτηρ 'member of φράτρια', La *frāter* 'brother', Ir *brāthir*, Go *brōþar*, To *pracar*.

In the Sl word for 'hornbeam' R, P, LS *grab*, Br, U *hrab*, US, Sk *hrab*, -(ъ)*r* was added secondarily in dialects. Hence, Cz *hrabr*, Sn *grâber*, SC *gràbar* and, with dissimilation resulting in the loss of the first sonant, Cz *habr*, Sn *gâber*, Bg *gábər* (Cf. OPr *wosigrabis* 'spindletree', Le place-name *Gruõbiņa*, Umbr *Grabovius* 'oak-god').

7. Problem of the clusters *tl, dl*. The clusters *tl, dl* are preserved in a part of the Sl languages, viz. P, US, Pb, Cz; with some exceptions in LS; Sk and Sn are crossed by isoglosses of the phenomenon. The Pskov dialects of R had *kl* and *gl* substituted for *tl* and *dl*. Otherwise *tl, dl* simplified in *l* in Sl (R, Br, U, SC, M, Bg).

In this geographic distribution the simplification of the clusters *tl, dl* differs from other simplifications considered so far. The latter were fundamentally common to all CS; this is not. Therefore it is plausible to attribute it to a later epoch. In particular, this attribution is supported by the fact that Sk isoglosses of separate words with *tl, dl* preserved or simplified into *l* seem to continue immediately the corresponding isoglosses of Sn. This indicates that the change of *tl, dl* into *l* took place before the Proto-Sk tribes were separated from the Proto-Sn by the German and Hung settlers, i.e. before the eighth – ninth centuries, but at or after the time when Sl settlements spread to their present territory in the West, i.e. not sooner than the fourth or fifth century A.D.

The simplification of *tl, dl*-clusters does not belong logically to the changes examined above, either. As the analysis showed, the latter encompassed stops when combined with other stops, spirants or, to a lesser extent, occlusive sonants (*m, n*), but not stops followed by the sonants *r, l* in two-component clusters. It is to be assumed that the change *tl, dl* > *l* did not occur at the time when other consonantal clusters were simplified, i.e. some time before the fifth century A.D. The problem of chronology will be examined in more detail in section 9.

Thus, it is to be assumed that during the period under scrutiny the clusters *tl, dl* were preserved in CS like the clusters *tr, dr*. For their further development see 25,1.

8. General rules in the simplification of consonantal clusters. CS simplification of consonantal clusters, inasmuch as it was a phonetic change, may be summarized in the following table:

p, t, k	+ *s*	> *s (x)*
t, d	+ *k, g*	> *k, g*
k	+ *t*	> *t (tj)*
p	+ *t*	> *t (st)*
b, p	+ *(m), n*	> *(m), n*
t, d	+ *m, n*	> *m, n*
v	+ *r, l*	> *r, l* (word initially)
b	+ *v*	> *b*

This may be compressed into the following general rules:

1. Stops were dropped before spirants and stops.
2. Occlusive sonants *m, n* caused the loss of preceding labial and dental stops, but not velar stops.
3. *v* is dropped after *b*.
4. Sonants *r, l* caused no change in preceding consonants in two-member clusters with the exception of word initial *v* which was dropped.

The simplifications did not affect spirants which remained admissible before both stops (clusters of the type *sp, st, sk*) and sonants (clusters of the type *sl, zl, xl*; *sv, zv, xv*; *s(t)r, sl*). Nor were stops affected before non-occlusive sonants (clusters of the type *tv, dv, tr, dr, tl, dl*).

In terms of articulatory conditioning and/or causality the simplifications were of a twofold nature. Rules 3 and 4 were due to the instability of the labial sonant *v* not tolerated next to a homogeneous consonant: either another labial (*b* + *v*) or another sonant (*v* + *r, l*). These simplifications had no great bearing on the structure of the CS syllable. Conversely, the simplifications encompassed in the rules 1 and 2 were based on the principle of non-admission of stops before all consonants, exc. non-occlusive sonants. Articulatorily they bear witness of a relatively relaxed, loosened articulation of consonants typical of a phonemically and phonetically "vocalic" language, in the sense assigned to these terms in section 1.

It is often said that CS simplified all consonantal clusters except those admitted in word-initial position. If this means that after simplifications the same consonantal clusters were admitted word initially and word internally it is an irrelevant statement tantamount to saying that the laws of simplification were the same for either position. Moreover, it is worthless, practically, for there are clusters which occur only initially (as *xr-*, see 13,6; also *skv-*, cf. OCS *skvrьnьnъ* 'impure') or only internally (as *skl*, cf. *istęsklъ* 'grown thin', *zg*, cf. *probrězgъ* 'dawn', *zd*, cf. *mьzda* 'reward'), although of course the lack of examples for each particular cluster may easily be ascribed to accident or to gaps in our evidence. The statement on inadmissibility of consonantal clusters as quoted above can, however, mean that initial clusters were not liable to simplification. In this sense it is misleading: in the preceding sections quite a few simplifications of word initial clusters were shown, e.g. **dk'm̥tom* becoming *sъto*, **d'ǵom* becoming *zem(lja)* 'earth', **tsorg-* becoming Li *sárgas* and Sl (OCS) *stražь* 'guard', etc., not to speak of *vr-*, *vl-* becoming *r, l* in initial position only.

Another widespread delusion is attributing the simplification of consonantal clusters to a general tendency toward, or even law of, open syllables in CS. Promulgated by N. van Wijk, widely used by Nahtigal, this theory was driven to extremes in some popular presentations of the subject. The grain of truth may be the fact that the simplification of consonantal clusters in changing syllable boundaries (See reservations on this question in section 10) could have contributed to increment of the number of open syllables. However, this was a consequence of simplifications, not their cause. If this were the cause one would expect all consonantal clusters to be simplified which has never been the case; and word-initial clusters would be expected to be rather spared of simplification, which again was not true. More on the problem of open syllables in CS in section 10 and chapter 15.

9. Chronology. While discussing developments of separate types of CS consonantal clusters, references to the chronology of these alterations were made

when possible. From facts such as OR *Vesь*, *Rusь* it became clear that in predivisional CS the clusters *ps, ts* were not admitted. The change *pt* > *t* was probably still operating at the time of the first Sl-Rm contacts. This points rather to a late period of CS.

On the other hand, the change *vr-*, *vl-* > *r-*, *l-* is shared with Balt; *pt* > *st* occurred at the latest during the period of Sl-Irn contacts and before the inf in *-tēi* (OCS *-ti*) developed in Sl. These, however, are marginal developments and do not belong to the main line of changes regulated by rules 1 and 2 (loss of stops before all consonants, except non-occlusive sonants). An important clue for establishing the relative chronology of the latter change is supplied by the words (cited in section 2) of the type OCS *sъsati* 'suck', (*vъs*)*krěsiti* 'raise from dead', SChSl *rusъ* 'red'. Their stems are reconstructed as **sups-*, **kroips-*, **reud'*s-. The stops *p*, *d* were lost in these instances after the rise of *x* in CS. Otherwise *s* as following *u*, *i* would have become *x* and the result would be ⁺*sъxati*, ⁺*vъskrěšiti*, ⁺*ruxъ* (More examples in 8,5).

Thus, at least two chronological layers are to be assumed in the simplification of CS consonantal clusters:

1. The older layer: *vr-*, *vl-* > *r-*, *l-*; *pt* > *st*.

2. Loss of stops before spirants, stops and occlusive sonants. Such cases as OCS *vъlati* 'float, drift', *vьrěti* 'boil' with regard to the first chronological layer, and such as *stьlati* 'spread' and possibly *zvьněti* 'ring' with regard to the second layer (as cited in 5,8) indicate that both layers must be referred to the period following the rise of the new zero-grade (represented by *ĭ*, *ŭ*) in CS. If earlier, **vlā-*, **vrē-* should have been simplified into ⁺*lā-*, ⁺*rē-* and, correspondingly, **stlā-*, **zvnē-*, as three-member clusters, into ⁺*slā-*, ⁺*znē-*. From this point of view the new zero grade may be considered not only a new development in the system of vowel alternations (which it actually was and from which vantage point it was analyzed in 5,9) but at the same time, in its effects, it may be presented as the first step toward the elimination of consonantal clusters in CS, by the insertion of a vowel between the clustered components rather than elimination of one component. Naturally, this method was limited to those morphemes in which vowel alternations functioned actively. Simplification of consonantal clusters, in the strict sense of the word, was applied only later to other morphemes.

Thus, the period of the cluster simplifications which constituted the first chronological layer may be determined with a certain degree of reliability as the time soon after the new zero grade developed in vocalic alternations and after the rise of *x*. The second set of simplifications, still productive in the sixth – eighth centuries A.D., must not necessarily be attributed to these centuries only. It is possible that these simplifications were developing gradually, spreading from one type of consonantal cluster to another during a considerably long time. Simplifications in the late loan words of the type *Vesь*, *Rusь* show that then the clusters *ps*, *ts* were still inadmissible in Sl, not that this was the time of their active elimination in native words. If so, it is impossible to establish exactly in which centuries the simplifications of consonantal clusters of

the second layer started. The only answer possible, viz. that it was before the fifth century A.D. (Cf. the inference from the treatment of *tl, dl* in section 7), is quite indefinite.

Tentatively, it can be referred to the beginning of our era. As shall be shown in chapters 17, 19, and 20, the first palatalization of velars and the monophthongization of diphthongs probably occurred at least after some consonantal clusters had been simplified. These changes fall mainly in the fifth – sixth centuries. With allowance given to the gradual character of simplification in consonantal clusters one may very tentatively assume the date alluded to at the beginning of this paragraph.

10. Conditions and effects. Conditions which enabled the simplification of consonantal clusters in CS, especially those containing stops (second set of simplifications), are basically delineated in 13,1. CS which developed into a "phonemically vocalic" language was being reshaped into a "phonetically vocalic", too. A kind of slipshod articulation of consonants between vowels developed, especially endangering the stops followed by another consonant and leading to the assimilation of those stops to succeeding consonants.

Having once been performed, the simplification of consonantal clusters, a consequence of the "vocalic" character of CS, enhanced this aspect of the language. Many consonants have been eliminated in certain morphemes, thus making the "responsibility" (i.e. functional yield) of vowels stronger.

The simplification of consonantal clusters gives an indication on the syllable boundaries in CS. For example, if in *$v_oaps_o\bar{a}$ 'wasp' *p* was assimilated to the following *s*, this implies that the boundary between the two syllables ran before *p* and not after it: $v_oa|ps_o\bar{a} > v_oa|\bar{s}_o\bar{a} > v_oa|s_o\bar{a}$ (R *osá*). Whether this was a CS innovation or inherited from IE, it shows that CS was a language with predominantly open syllables despite the presence or absence of consonantal clusters. This is to say that predominance of open syllables in CS was a prerequisite, not a consequence of the simplification of consonantal clusters carried out in CS.

In terms of the phonemic system, the CS simplification of consonantal clusters as presented in this chapter did not introduce any changes. They concerned the distribution of phonemes, not the make-up of the system. But one type of simplification was not considered in this chapter: clusters with *j* (*i̯*). These simplifications, although part of the changes analyzed here, had much more extensive effects. They will be examined separately (See chapter 14)

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14. *J*-CLUSTERS AND THE RISE OF OPPOSITION IN PALATALIZATION

1. General statement. 2. Dental sonants + *j*. 3. Dental spirants + *j*. 4. Velars + *j*. 5. Dental stops + *j*. 6. Chronology. 7. Conditions and effects. 8. Labials + *j*.

1. Consonantal clusters with *j* (*i̯*) as second component participated in the CS trend toward elimination of consonantal clusters. Since *j* was a sonant one might expect a development following the pattern of the *v*-clusters: loss of the sonant (See 13,5). This actually occurred: as a rule *j* was lost after a consonant. However, there was a difference in the treatment of *j*- and *v*-clusters due to the stronger assimilatvie power of *j*. Its palatal articulation affected the articulation of the preceding consonant, in most cases moving the latter toward a more palatal, i. e. palatalized articulation. Correspondingly, the articulation of the velars was shifted forward while that of the dentals was moved back. Only labials preserved their identity (See section 8). Other consonants changed as follows:

r, *l*, *n* (+ *j*) > *r'*, *l'*, *n'*
s, *z* (+ *j*) > *š'*, *ž'*
t, *d* (+ *j*) > *ć*, *ʒ́*
k, *g*, *x* (+ *j*) > *č'*, **ǯ'* (> *ž'*), *š'*

2. Dental sonants + *j*. As stated in section 1, *j* was lost after dental sonants *r*, *l*, *n*; its palatal articulation was transferred onto the sonants which became *r'*, *l'*, *n'*.

In their subsequent individual histories most Sl languages abolished the distinction between the reflexes of CS *r'*, *l'*, *n'* and *r*, *l*, *n*. Therefore the historically attested evidence of *r'*, *l'*, *n'* is limited. Nevertheless, there are sufficient data, mainly in OCS, SC and Sn to establish their presence in CS.

In OCS palatalization of *l* and *n* is fairly consistently marked in Zo and Su (usually by ˆ: *l*ˆ, *n*ˆ; before *ǫ* and *u* also by using the letters ѭ, ю) and occasionally in other manuscripts. Since Zo was written in Macedonia and Su in Bulgaria the evidence is valid for OM and OBg. OCS *r'* was undergoing dispalatalization, thus its palatalization is marked inconsistently in Zo and rather exceptionally in Su. However, some evidence on *r'* may be gathered from OCS manuscripts.

SC still distinguishes between the original *l'*, *n'* and *l*, *n*; but *r'* has been completely dispalatalized. In Sn, spelling marks the original *l'*, *n'*, *r'* as *lj*, *nj*, *rj*; in the standard language the pronunciation *l'*, *n'* is recommended by grammari-

ans in word- and syllable-final position, but *r'* is completely unknown. In prevocalic position *l'*, *n'*, *r'* have been decomposed into *l* + *j*, *n* + *j*, and *r* + *j* so that the early CS pattern is seemingly restored. In most dialects the palatalization was lost or *lj*, *nj* underwent metathesis; dialectally, *nj* also changed into nasalized *j* or simple *j*.

The other Sl languages have either preserved the CS palatalized sonants but developed, in addition, new palatalization(s) making the oldest layer of the palatalized sonants indiscernible, or they dispalatalized CS *l'*, *n'*, *r'* partially or completely. Nevertheless R and Sk evidence may be used in the position before *a* and *u*, and P and Bg before *u*. Cz normally distinguishes reflexes of CS *n* and *nj* preserving palatalization in the latter (but before the reflexes of *i* and *ě* both are palatal).

Besides the direct evidence provided by OCS, SC, and Sn, non-Sl IE languages may be used to establish the presence of *j* after *l*, *n*, *r* in IE and early CS. Finally, morphological analysis of a given word often enables the student to establish that *l*, *n*, *r* were originally followed by *j* and, consequently, were palatalized in CS. These approaches are all applied wherever possible in the following examples:

a) *l'*: OCS *volja* 'will' vs. *voliti* 'prefer', Sn *vólja*, SC *vȍlja*; cf. also R, U *vólja*, Sk *vol'a* – Li *valià*, Le *vaļa* 'power'. Further correspondences as OI *váras* 'wish', Av *vāra-* 'will', OHG *wala* 'choice' do not contribute to our knowledge of the nature of CS *l*;

OCS *polje* 'field', Sn *poljê*, SC *pȍlje* (to OR *polъ* 'empty') from **pₒal-j-om*, a formation with *j*-suffix, the same as in (Sn) *morjê* 'sea' (See c);

verbs of the third class in present tense and of the fourth class in 1 sg pres, e.g. OCS *sъlati* : *sъljǫ*, *sъlješi* 'send', *stьlati* : *steljǫ*, *stelješi* 'spread', *xvaliti* : *xvaljǫ* but *xvališi* 'praise'. Sn generalized *l'* in all forms of *pošíljati* 'send' and *l* in pres of *hvalíti* : *hválim*, but *l'* is still retained in *hváljenje* derived from part pass. SC has *slȁti* : *šȁljēm* but *hváliti* : *hvȃlīm*, with *l'* preserved, however, in part pass *hvȃljen*.

b) *n'*: OCS *vonja* 'odor', Sn *vónja*, SC *vȍnj*, Cz *vůně* as well as OR *vonja*, Sk *vôňa*, Bg *vonjá* 'stink', with no suffix *j* in other IE languages (Cf. OI *anas* 'blow', Gr ἄνεμος, La *animus* 'spirit', etc.[1]);

OCS *mьnjьjь* ~ *mьnjьši* 'less', Sn *mànj(ši)*, SC *mȁnje*, Cz *méně* (but *menší*), from **min-jis-* with the suffix of comp beginning in *j*;

OCS *konjь* 'horse', Sn *kònj*, SC *kȍnj*, Cz *kůň*, from **ko(b)n-j-os*, a subst of *jo*-stems.

Verbs of the third class in pres and of the fourth class in 1 sg pres had *n'*, instead of *n* of the inf, because *j* was the feature of the 3rd class and the alternant of *i* in 1 sg of the 4th class, e.g. OCS *stenati* : *stenjǫ*, *stenješi* 'groan', *činiti* : *činjǫ* but *činiši* 'make'.

c) *r'*: OCS *burja* 'storm', Sn *búrja*, R, U *búrja* (but SC hardened as expected: *bȕra*) – La *furia* 'rage';

OCS *morje* 'sea', Sn *morjê* – Li *mãrios* 'Kurisches Haff', OPr *mary* 'lagoon, bay', La *maria* 'sea' (pl), possibly OI *maryā́dā* 'sea shore';

OCS *gorje* 'woe', Sn *gorjê* 'grief' – Li *garė́ti*, *gariù* 'burn'.

Cf. also R *zarjá* 'dawn' vs. Li *žarijà* 'coal', etc.

[1] The suffix *j* in Mo Sl is preserved as such only in rare cases after vowels as, e.g., R *stája* 'flock', Sn *stája* 'shelter', SC *stȁja* 'stable', sty', Bg *stája* 'room' derived from *sta-t'* 'stand'.

In verbs, palatalization of *r* follows the same pattern as *l* and *n*, e.g. OCS *orati* : *orjǫ*, *orješi* 'plough', *koriti* : *korjǫ* but *koriši* 'twit'.

While CS *l'* and *r'* stem from **lj*, *rj* solely, an additional source may be assumed for *n'*, notably *n* changed into *n'* after velar stops *k* and *g* preceding *i*: *kni*, *gni* > *kn'i*, *gn'i*. This is a later CS development enabled by the presence of *n'* (< *nj*) in the system of CS consonants at the time. This palatalization must be explained as a partial assimilation of *n* to the preceding velar facilitated by the front vowel following. In this environment *n* moved from dental (alveolar) toward a palatal articulation closer to the velar articulation of *k* and *g*. The clusters at issue were the last survival of the cluster type, stop + occlusive sonant (See 13,4c). The relevant facts are few:

OCS *ognjь* 'fire', Sn *ógenj*, SC *òganj*; Cz *oheň* may also be cited because *-nь* is regularly represented in Cz by *-n* (e.g. *den* 'day'). Cf. Li *ugnìs*, OI *agníṣ*, La *ignis*;
Sn dial[2] *gnjída* 'nit', SC *gnjȉda* vs. Le *gnīda*, Icel, Norw *gnit*;
OCS *k(ъ)njigy* 'book', Sn *knjíga*, SC *knjȉga*.
If OCS *njiva* 'field', Sn *njíva*, SC *njȉva* stems from **g'nei-* ~ **g'nī-* as in OCS *gniti* 'rot' (Cf. MHG *gnīst* 'ground') it is also pertinent. True, the corresponding verb *gniti* is attested in OCS without palatalization of *n*, but it only occurs in ES, PS, and Sav, manuscripts which do not mark palatalization systematically. Sn dial has *gnjiti* and SC *gnjȉti*[3].
There is no palatalization attested in OCS *agnьcь* 'lamb' but this is obviously due to the leveling with *agnę*; in Sn *jágnje* and SC *jȁgnje* the leveling proceeded in the opposite direction so that the palatalization spread to the position before -$_e$aN.

3. Dental spirants + *j*. If followed by *j*, the dental spirants *s*, *z* underwent partial assimilation to *j* becoming *š'*, *ž'*; then *j* merged with them and after a rather ephemeral hypothetical period of gemination (not tolerated in CS), the final result was attained:

s, *z* + *j* > *š'*, *ž'* + *j* > *š' š'*, *ž'ž'* > *š'*, *ž'*.

It was a reciprocal assimilation resulting in merger.

In the attested Sl languages, *š'* and *ž'* were usually dispalatalized; they are represented by *š*, *ž*, except in languages and dialects which eliminated hushing consonants (Pb, P dialects with *mazurzenie*, etc.). As a rule *š* and *ž* of this origin are easily identifiable by their alternations with *s* and *z*, particularly in verbs: *š*, *ž* from *sj*, *zj* occur like *l'*, *n'*, *r'* in pres of the third class verbs and in 1 sg pres of the fourth class verbs, e.g. OCS *plęsati* : *plęšǫ*, *plęšeši* 'dance', *plъzati* : *plěžǫ*, *plěžeši* 'crawl'; *měsiti* : *měšǫ* but *měsiši* 'mix', *kaziti* : *kažǫ* but *kaziši* 'spoil', etc.

[2] Those Sn dialects which preserved palatalization of *n'* before vowels.

[3] Instability of *g-* before *n'* as accepted for *njiva* could work in the opposite way as well, i.e. *g-* could have been added before initial *n* + *i-*. Such an assumption would explain the change of **ni-zdos* 'nest' into the form represented by OCS *gnězdo*, SC *gnézdo* (dial also *gnjazdo*, *gnjezdo*), etc. (with secondary *ě*). In the later development of Sl this was also extended to some words with *ě* in the root: R *gnetít'* 'to light', P *niecić*, Cz *nítiti*, Sn *nętiti*, OSC *unititi* as corresponding to OHG *gnîtan* 'rub', AS *gnídan*, Gr χνίει 'it drizzles; breaks in pieces'. Cf. also OR *razněvati* 'make angry' (Izb 1073 a.o.), *iz(g)niti* 'rot' (1270), ONP and P dial (Mazovia) *rozniewać*, etc.

A few other examples are:

OCS *vašь* 'your' < **vōs* (Cf. La *vōs* 'you') + *jos* (possessive suffix);

OCS *nožь* 'knife' derived from (*vъ*)*noziti* 'stick, thrust' by means of the suffix -*j*(*os*) like RChSl *kyjь* 'hammer' from (OCS) *kovati* 'forge' (**kū-* : **kou-*);

R, U *čeréšnja* 'sweet cherry', Br *čaréšnja*, US *třěšnja*, Cz *třešně*, SC *trȅšnja*, Bg *čeréša* as borrowed from VLa *ceresia* (possibly via OBav **chersia*);

R *ëž* 'hedgehog' from **eǵ'* + *j*(*os*), cf. Li *ežỹs*.

Besides *š* and *ž* from *sj*, *zj*, CS had *š*, *ž* from assimilations of *s*, *z* to the following *l'*, *n'*, *r'*. OCS still had numerous instances of *sandhi* of the type *bež njego* 'without him', also in prefixes as *vъžljubljǫ* 'fall in love' (1 sg), but these were being eliminated in OCS itself and are virtually unknown in most Mo Sl languages. Moreover, *š* and *ž* of this origin have been in most cases eliminated from those paradigms in which they alternated with *s*, *z*, e.g. from *mysliti* 'think' 1 sg in OCS is *myšljǫ*, but R *mýslju* and rarely *mýšlju*, P *myślę*, Sk, Cz *myslím*, Sn *mîslim*, SC *mȉslīm*, M *mislam*, Bg *míslja*; but in more isolated form of subst R still has *mýšlen'e* 'thinking', Cz *myšlení*, Sn *mišljénje*, SC *mȉšljēnje*.

Cf. also R, U *kášel'* 'cough', Br *kášal'*, P *kaszel*, LS, US, Cz *kašel*, Sk *kašel'*, Sn *kášelj*, SC *kȁšalj*, M *kašlanje*, Bg *kášlica* from **kₒāsljo-* as compared to Li *kósiu* 'cough' (1 sg), Le *kãsus* ~ *kãsis*, OI *kā́sate*; Bg *króšnja* 'basket' vs. *krósno* 'loom'; SC *glȅžnja* 'ankle' (gen sg from *glȅžānj*) vs. R *glëzna* 'shinbone'; R adj *véšnij* 'spring', *nížnij* 'lower' vs. *vesná* 'spring', *niz* 'bottom'. There is no need to deduce *ž* in *nížnij* from the comp *níže* (< **nizjos*), cf. palatalized *n'*, e.g., in SC *vȉšnjī* 'upper'.

4. Velars + *j*. The reciprocal assimilation resulting in the merger of velars and *j* followed the pattern of dental spirants + *j*, i.e.

$$k + j > \check{c}' + j > \check{c}'\check{c}' > \check{c}'.$$

$x + j$ developed into *š*, falling together with the products of $s + j$. This probably contributed to the simplification of **ǯ* the voiced counterpart of *č* expected theoretically from $g + j$. The reflex of $g + j$ was identified with *ž*, the reflex of $z + j$. Thus the final results of these developments were:

$$k + j > \check{c}';\ g + j > \check{z}';\ x + j > \check{s}'.$$

The most obvious examples are to be found in third class verbs, e.g. OCS *alkati* : *alčǫ*, *alčeši* 'be hungry'; *lъgati* : *lъžǫ*, *lъžeši* 'tell lies', *duxati* : *dušǫ*, *dušeši* 'blow'[4].

A few other examples are:

a) *kj*: R, Br, U, Sn, Bg *čáša* 'cup, chalice', P *czasza*, Pb *cosó* (zoosô), Sk *čaša*, Cz *číše*, SC *čȁša*, from **kjₒāsē* as in OPr *kiosi* 'wineglass';

R, Br, U *mjač* 'ball', Cz *míč*, Sn *mȇč*, SC dial *meča* 'soft inner part of bread', Bg *méčka* 'bread with cheese in balls' – vs. OCS *mękъkъ* 'soft', with the same -*j*(*os*) suffix as in OCS *nožь*, *kyi* (See section 3);

SC *Drȃč* 'Durazzo' < **Dъračь*, borrowed from La *Durrachium* (Gr Δυρράχιον).

[4] Fourth class verbs are not so obvious in this respect because they have *č*, *ž*, *š* in all forms, due to the first palatalization of velars (See 17,1). Still in 1 sg pres these verbs have *č*, *ž*, *š* because of *j* that followed *k*, *g*, *x*, e.g. OCS *mlьčǫ* 'am silent', *běžǫ* 'run', *slyšǫ* 'hear'.

b) *gj*: OCS *lъža* 'lie' from *lъgati* 'tell lies' derived with the suffix *-j(ā)*; *straža* 'guard' vs. *strěgǫ* 'guard', formed with the suffix *-j(ā)*;

R *Seližárovka*, river-name (< **Serežar-*) borrowed from Fi (Est) *Särgjärv*, lake *Seliger*.

c) *xj*: OCS *duša* 'soul' vs. *duxъ* 'ghost', *suša* 'drought' vs. *suxъ* 'dry', both formed with the suffix *-j(ā)*.

Cf. also OCS *kličь* 'noise', *kričь* 'shriek', *plačь* 'weeping', *pritъča* 'parable', Cz *tíže* 'weight' – vs. *kliknovenie* 'exultation', R *kríknut'* 'shout', OCS *plakati* 'cry', *tъknǫti* 'stick', Cz *tíha* 'weight'; R *túča* 'cloud' as compared with Li *tánkus* 'dense', etc.

The clusters *kj*, *gj* could have been preceded by *s*, *z* respectively. This did not cause any deviations in the phonetic development of *kj* into *č'* proper, but a concomitant change *s* > *š'* occurred due to regressive assimilation, so that the new cluster was *š'č'*. In the cluster *zgj* the presence of *z* which changed into *ž'*, also by regressive assimilation, helped preserve *ǯ'*. While in other environments *ǯ'* yielded *ž'*, after *ž'* it was largely preserved:

zgj > *ž'ǯ'*.

Most Sl languages still have *šč*, *žǯ* from *skj*, *zgj*, but the SCe group simplified them into *št'*, *žd'* (or, with hardening, *št*, *žd*): Sk and Cz have *št'*, *žd'*; SC (mostly Štok), M, and Bg have *št*, *žd*. This was also true of OCS in its M and Bg versions. Pb also had *št*, *žd* which became *st*, *zd* with the loss of the entire hushing series.

Examples for *skj*: R, Br, U *pljušč*[5] 'ivy', P *bluszcz*[6], LS *blišć*, US *blušć*, Pb *pl'a̯ust'ə* (pillegaustga, gen sg), Sn *bljúšč*, SC *pljȕšt* ~ *bljȗšt* – as compared to Li *plùskos* 'dandruff', Le *plauskas* 'scurf', Norw dial *flus(k)*;

SChSl *pištǫ*, 1 sg to *piskati* 'play the flute', R *piščát'* 'squeak', Br *piščáć*, U *pyščáty*, P *piszczeć*, LS *pišćaś*, US *pišćeć*, Pb *pá̯istə* (péiste, 3 sg pres), Sk *pišt'at'*, Cz *pištěti*, Sn *píščem* (1 sg), M *pišti*, Bg *pištjá* – as compared to Li *piškė́ti* 'crack', Le *pīkstêt* 'peep';

SChSl *pryštь* 'blister', R, Br, U *pryšč* 'pimple', P *pryszcz*, Sk *prýšt'*, Sn *príšč*, SC *prȋšt*, M, Bg *prišt* – vs. R *prýskat'* 'sprinkle; burst'. The cluster *sk* is preserved or restored in LS *pšuskel* 'callosity'; cf. also Cz *pryskýř* 'pimple'.

Other examples: R *iščú*, 1 sg, vs. *iskát'* 'seek', *pleščú*, 1 sg, vs. *pleskát'* 'splash', *voščú*, 1 sg, vs. *vosk* 'wax', *plašč* 'coat' if derived from *plóskij* 'flat', etc.

Examples for *zgj*: OCS *droždię* 'yeast', R *drózži*, Br *dróždžy*, U *drížži*, P *drożdże*, LS *drožlźeje*, US *droždźe*, Sk *droždie*, Cz *droždí*, SC *dròžda*, Bg *dróždie* – vs. Sn *drôzga* 'mash', cf. OPr *dragios* 'yeast';

R *brézžit'* 'dawn', OP *brzeżdżenie* (PFl), Sk *brieždenie*, Cz dial *rozbrejžd'ovat se* – vs. OCS *probrězgъ* 'dawn'.

Other examples: OCS *moždanъ* 'marrowy' vs. (R) *mozg* 'marrow', *roždie* 'vine' vs. *rozga* 'vine', R *brýzžu* 'splash', 1 sg, vs. *brýzgat'*, P *miażdżyć* 'crush' vs. *miazga* 'mash', etc.

5. Dental stops + *j*. The *j*-clusters analyzed in sections 2–4 undoubtedly underwent their changes in CS. In most cases their CS reflexes have been pre-

[5] What is denoted in R spelling as *šč* admits along with the pronunciation [šč'] also [š̄']. This also refers to the reflexes of CS *zgj*. Whatever their spelling they may be pronounced as [žǯ'] or, in a more modern way, [ž̄'].

[6] About initial *b-* instead of *p-*, see 24,2.

served in all Sl languages; in other instances part of the Sl languages introduced certain simplifications in these reflexes (as *št'*, *št* for *šč*) or merged them with other phonemes (as *r'* having become *r*). But the fundamental CS status may be easily and unmistakenly reconstructed through later alterations.

The developments of the CS clusters, dental stop + *j*, i.e. *dj*, *tj* (whether original *tj* or from *kt* before *ĭ*, see 13,3 b) are not nearly as lucid. Their reflexes in the attested Sl languages are manifold, even as early as the first available Sl records. The reflexes, through which CS *dj*, *tj* can be identified even when no alternation with *t*, *d* has been preserved in the given morpheme are as follows:

a) *č* – *ǯ* type: R, Br, U, and Sn. All these languages preserve *č* without changes while *ǯ* underwent simplifications: Sn replaced it by *j*, R and partly Br and U by *ž*;

b) *c* – *ʒ* type: P, LS, US, Pb, Sk, and Cz. Again the voiceless affricate is retained without changes, while *ʒ*, its voiced counterpart, has been simplified into *z* in LS, US, and Cz;

c) *ć* – *ʒ́* type: represented by SC; in standard and Ce M *ḱ*, *ǵ*;

d) *št* – *žd* type: represented by OM, dial M (e.g. Ohrid area) and Bg.

Examples: a) *tj*: R *máčexa* 'stepmother', Br *máčaxa*, U *máčuxa*, P, LS, US, Sk *macocha*, Cz *macecha*, Sn *máčeha*, SC *mȁćeha*, M *maḱea* ~ *maštea*, Bg *máštexa*, ChSl *maštexa* – originally a comp to *mat*(*i*) 'mother' formed with the suffix -*i̯esī* (with secondary *x* motivated morphologically);

OCS *oštutiti* 'feel', R *očutít'sja* 'find oneself', Br *pračnúcca* 'come to one's senses', U *očútytysja*, P *cucić* 'wake up', US *cućić*, Sk *cítit'* 'feel', Cz *cítiti*, Sn *čútiti*, SC *ćúteti*, cognate to Li *atjùsti* 'feel, sense'[7], *jaũsti* 'feel';

OCS *obьštь* 'common, general', R dial *óbčij*, P *obcy* 'strange', Sk *obecný* 'municipal', Cz *obecný* 'general', Sn *óbči*, SC *ȍpćī*, M *opšt*, Bg *óbšt*(*i*) – from *obь* 'around' (Cf. Gr ἀπό) + suffix **ti̯o*-, cf. Li *apačià* 'lower part'[8], OI *ápatyam* 'ancestors'.

Other examples: OCS *pišta* 'food' vs. *pitati* 'feed', *plešte* 'shoulder' vs. Li *platùs* 'broad', OCS *svěšta* 'light' vs. *světъ* 'light', *pljušta* 'lungs' vs. OPr *plauti* 'lung', *věšte* 'popular assembly' vs. (*sъ*)*větъ* 'council', *onušta* 'sandal' vs. *ob-u-ti* 'put shoes on' + suffix **ti̯o*-, *domaštьnъ* 'domestic' with the same suffix, *kǫšta* 'house' vs. (*sъ*)*kǫtati* 'hold down'; Cz *vzácný* 'rare, precious' (< **vuz-eNti̯-in*-), *pláce* 'recompense' vs. *platiti* 'pay', etc.; also 1 sg pres of fourth class verbs, as R *kutít'* : *kučú* 'go on a spree'.

b) *tj* < *kt*(+*ĭ*): OCS *věštь* 'thing', LS, US *wjec*, Sk *vec*, Cz *věc*, Bg *vešt* as compared to Go *waihts* 'thing';

RChSl *nъštvy* 'kneading trough', R dial *nočva* 'washing trough', Br, U *nóčvy*, P *niecki* 'trough', LS *njacki*, US *njecki*, Pb *nåct'ói̯*, Cz *necky*, Sn *nečvè* ~ *nȃčve* 'bread trough', SC *nȁćve*, M *noḱvi*, Bg *nə̀štvi* – from **niktjū*, gen **niktjure*, as compared to OI *nénēkti* 'wash away', Gr νίπτω 'wash', Ir *nigid* (3 sg);

[7] Li like Sl has *st* < **tt*.

[8] In Li *tj* > *č* and *dj* > *ǯ* as in Sl, but independently and at a much later time (the fourteenth – fifteenth century).

OCS *moštь* 'power' (also *mošti* 'be able'), R *moč'*, U arch and dial *mič*, P, Sk, Cz *moc*, US *móc*, Sn *mộč*, SC *môć*, M *moḱ*, Bg *mošt* – vs. OCS *mogǫ* 'I can', from **mog'-tis*, cf. Go *mahts*.

Cf. also OCS *noštь* 'night' cognate of Li *naktìs*, *dъšti* 'daughter', cognate of Li *duktẽ*, the infinitives of the first class verbs with stems ending in *-k-*, *-g-* (type of R *pekú* : *peč'* 'bake', *zaprjagú* : *zaprjač'* 'harness'), etc.

c) *dj*: OCS *gospožda* 'lady', R *gospožá*, OP *gospodza*, LS *góspoza*, US *hospoza*, SC *gȍspođa* (and *góspa*) – vs. OCS *gospodь* 'lord';

OCS *rъžda* 'rust', R *ržá(včina)*, Br, U *iržá*, P *rdza*, LS *rza*, US *zerz*, Sk *hrdza*, Cz *rez*, Sn *rjà* ~ *rejà*, SC *ȑđa*, M *'rǵa*, Bg *rəždá* – vs. OR *rьdьrъ* (< **rъdьrъ*) 'red', R *rdet'* 'glow', *rudá* 'ore';

SChSl *sažda* 'soot', R, Br, U *sáža*, WU dial *sádža*, P, Sk *sadza*, LS dial *saze*, US *sazy*, Cz *sáze*, Sn *sája*, M *saǵi*, Bg *sážda* – vs. OCS *saditi sę* 'settle'.

Cf. also OCS *mežda* 'boundary' vs. OI *mádhyas* 'middle', R *rýžij* 'red' vs. Li *rūdìs* 'rust', P *wodze* 'bridle' vs. Li *vãdžios* 'reins', as well as 1 sg pres of the fourth class verbs with the root ending in *-d-*, as R *vodít'* : *vožú* 'lead', etc.[9].

The variety and antiquity of reflexes of *tj*, *dj* in the Sl languages leads one to assume that the change of these clusters must have been effected at the epoch of disintegration of CS and thus should not be considered a CS phenomenon. However, this assumption would contradict the logical expectation: a change of *tj*, *dj* corresponds to the series of changes in *j*-clusters which encompassed all other dentals (*n*, *r*, *l*, *s*, *z*) as well as other, non-dental stops (*k*, *g*. On labial stops, see section 8). There are hardly any perceptible reasons why the clusters *tj*, *dj* would have resisted the change typical of all other *j*-clusters only to follow the same general trend several centuries later.

The development of the clusters *tj*, *dj* becomes more comprehensible if one analyzes their reflexes in the position after *s*, *z*, i.e. the reflexes of *stj*, *zdj*. It is striking that the reflexes of *stj*, *zdj* coincide completely with the reflexes of *skj*, *zgj* and are, consequently, basically uniform in Sl. They are *šč*, *žǯ*, with subsequent simplification of these clusters into *št'* (*št*) and *žd'* (*žd*) in the SCe group of the Sl languages: Sk, Cz, SC (Štok), and also M and Bg. Pb, which abolished the hushing series in general, naturally has *st'*, *zd'*. A few examples follow:

a) *stj*: R, Br, U *boršč* 'cabbage soup; acanthus', P *barszcz*, US *baršć* 'officinal herbs', Cz *bršt'* 'acanthus', Sn *bȑšč* – from **b'r̥stio-*, cf. OI *bhr̥ṣṭíṣ* 'point, tip', La *fastīgium* (< **farst-*) 'top, tip', ON *bursti* 'broom';

OCS *ništь* 'poor', R *níščij* 'beggar', P *niszczotny* 'poor', SC *nȉšt* – cf. OI *níṣṭyas* 'foreigner';

[9] A special case is presented by the Sl word meaning 'strange(r)'. Its CS form **tjudj-* contained two *j*-clusters. They developed normally in OCS *štuždь*, R *čužój*, Br *čužý*, U *čužýj*, P *cudzy*, LS, US *cuzy*, Pb *cáu̯ʒə* (zause), Sk *cudzí*, Cz *cizí*, but other forms testify to a dissimilation or to an analogy with the inf of the type of OCS *utužditi* 'alienate' where *u* is from *ou*, not from *eu* and consequently was not preceded by *j* (See 19,1); this dissimilation and/or analogy occurred in the dialects of CS, so that the first *j* is not represented in OCS *tuždь*, Sn *tûj*, SC *tûđ*, M *tuǵ*. Bg *čužd* arose in blending with *čúden* 'amazing' and was accepted under the influence of the corresponding R word.

R, Br *sviščú* 'whistle' (1 sg), U *svyščú*, P *świszczę*, Sk, Cz *svištím*, Sn *svîšč* 'marmot' – vs. OCS *svistanie* 'whistle'.

b) Examples of the reflexes of CS *zdj* are few: ChSl *jaždǫ* 'travel' (1 sg), R *éžžu*, Br *éždžu*, U *jiždžu*, P *jeżdżę*, LS *jězdźu*, US *jěždźu*, Cz *ježdění* 'traveling', SC arch *ježđa* – cf. ShSl *jazditi*;

OCS *dъždь* 'rain', R *dožd'*, Br *doždž*, P *dżdżu* (gen sg), Pb *dåzd* (dahssd), Sk *dažd'*, Sn *dèždž*, SC arch *dažd*, M *dožd*, Bg *dəžd*, from **dus-djus* 'cloudy sky' (cognate to OI *duṣ-* 'bad', *dyu-* 'sky';

OCS *prigvaždati* 'nail', U *pryhvoždžú* 'stick' (1 sg), P *przygważdżać* 'nail', Cz *hvoždění* 'malt drying', SC *prìgvožđen* 'nailed down'[10] – cf. OCS *prigvozditi*[11], etc.

An important generalization ensues from the basic uniformity of the reflexes of *stj* and, respectively, *zdj* in all the Sl languages, and from the fact that everywhere these reflexes belonged to the hushing series. It is to be inferred that the reflexes of *tj* and *dj* were also uniform and also belonged to the hushing series. The presence of *s* or *z* before *tj* and *dj* resp. could not change their reflexes. On the contrary, under the conditions of regressive assimilations which constantly operated in CS (and Sl) consonantal clusters, the reflexes of *tj* and *dj* reshaped *s* and *z* into *š* and *ž* resp. This is to say that the change *s* > *š* and *z* > *ž* is explicable only if the reflexes of *tj* and *dj* were of hushing type. In their subsequent development certain Sl languages while dispalatalizing the reflexes of *tj* and *dj* lost the hushing character of these reflexes. After *š* and *ž*, however, it was retained because these hushing consonants now acted as preservatives.

If we denote, conventionally, the original hushing reflexes of *tj* and *dj* as *ć* and *ʒ́* the whole development may be summarized as follows:

CS	CS dial	1 type (R, Br, U, Sn)	2 type (P, LS, US, Pb, Sk, Cz)	3 type (SC)	4 type (OM, Bg)
tj > **ćć*	**ćć* ≥ **ć*/*št'*	**ć* > *č*	**ć* > *c*	*ć* preserved[5])	*št'* > *št*[6])
dj > **ʒ́ʒ́*	**ʒ́ʒ́* ≥ **ʒ́*/*žd'*	**ʒ́* > *ǯ* (> *ž*/*j*[1])	**ʒ́* > *ʒ* (> *z*[2])	*ʒ́* preserved	*žd'* > *žd*
stj > **ść*		**ść* > *šč*	**ść* > *šč*/*št'*[3])	**ść* > *št'* > *št*	**ść* > *št'* > *št*[12]
zdj > **źʒ́*		**źʒ́* > *žǯ*	**źʒ́* > *žǯ*/*žd'*[4])	**źʒ́* > *žǯ*/*žd*	**źʒ́* > *žd'* > *žd*

1) *j* in Sn (also in Čak and Kajk SC).
2) *z* in LS, US, Pb, and Cz.

[10] SC has twofold reflexes: *žd* and *žđ*. Cf. *gniježđah se* 'nest' (impf), *prìgvožđen* and *prigvožden*, etc. The *žd*-forms could have come from dialects or from ChSl.

[11] The complete identity of the reflexes of *skj* and *stj* caused confusion of *sk* and *st* in some roots. While P has, legitimately from the historical point of view, *puścić* : *puszczać* 'let', R derived *puskát'* from *puščát'* which became the only form of the standard language while *puščát'* was degraded to a substandard form. R *dristát'* 'have diarrhea', P *drystać*, Cz *dřístati*, corresponds to SC *drískati* and Bg *dŕiskam*, while Sn has doublets *drîsk* ~ *drîst* 'diarrhea'. Along with *laskát'* 'caress' R has *lástit'sja*, and R *luská* 'husk, shell' is paralleled by *lustá*; along with *blesk* 'shine' R has *blestét'*. In some of these cases the difference in original formants is not excluded, blendings could have taken place but whatever the mechanics, it was facilitated by the coalescence of *st* and *sk* in those words and word forms in which they were originally followed by *j*.

[12] Thus, in this dialectal group the reflexes of *tj* and *stj*, *dj* and *zdj* resp. coalesced creating a peculiar system of consonantal alternations.

3) *št'* in Sk and Cz.

4) *žd'* in Sk and Cz.

5) In many dialects, especially Čak, simplified into *t'*, as *ȝ́* into *d'* (Hence also MoM *ḱ*, *ǵ*). 6) The original palatalization of *t* in Bg *št* is attested by Rm loan words from Bg as *ştiúcă* 'pike', *prắştie* 'sling', – Mo Bg *štúka*, *prášt(k)a*, etc..

In the evolution of *tj*, *dj* standard SC (3rd type) has preserved the CS status. The next closest to this status are the languages of the first type. The languages of the second type eliminated the hushing character of *ć*, *ȝ́*. In the languages of the fourth type the beginning of an independent dialectal development must be posited for an earlier stage, still within CS, namely at the stage of the geminated **ćć*, *ȝ́ȝ́*: instead of being simplified by shortening, these geminates in the Proto-Bg dialects dissimilated into **ćt'*, *ȝ́d'*, which then yielded *št'*, *žd'*.

With **ćć* and **ȝ́ȝ́* reflexes of *tj*, *dj* posited for all dialects of CS and their simplified form *ć*, *ȝ́* for all dialects except Proto-Bg, and the variety of later reflexes relegated to a later period either in immediately predivisional CS or the early histories of the individual Sl languages, the change of the clusters *tj* and *dj* assumes its logical place along with the other changes that affected the clusters *lj*, *nj*, *rj*, *sj*, *zj*, *kj*, *gj*, and *xj*, i.e. all consonants in combination wiht *j*, except the labials. It also fits into the series by the very character of the change: in all these cases the preceding consonant became partly assimilated to *j*, and then *j* was lost or, to be more precise, absorbed by the articulatorily similar preceding consonant.

For all the cases an intermediary, transitory stage of gemination is quite plausible, for the developments of *tj*, *dj*, indispensable.

6. Chronology. All the changes of *j*-clusters as analyzed in sections 2–5 proved to be CS, occurring within the period of operation of a certain CS tendency. This does not necessarily imply simultaneity. These developments could have been sequential during a given epoch of CS history.

Data are available making it possible to establish the framework of time within which these changes occurred. For the palatalization of *n* resulting from its merger with *j*, certain vague indication is provided by pronouns containing the so-called epenthetic *n*, e.g. loc sg OCS (*vъ*) *njemь*, *njei*. This *n* originally belonged to the preposition **vun* (as well as **kun*, **sun*). It could have been grasped as a part of the following word, a pronoun, only when all final *n* became optional, as an intermediary stage preceding the complete loss of final nasal consonants. As will be shown in 15,2 and 15,5, this was a relatively early change in CS, probably before the first century B.C. Thus, palatalization of *n* could not have occurred before this time; nor did it necessarily occur immediately after the loss of final *n*.

On the other hand, the cluster *lj* in La (Rom) *Castellione* is reflected as *l'* in SC *Košljûn*, island-name, which could not have occurred before the sixth century.

As for the clusters *sj*, *zj*, the late date of their change into *š*, *ž* is attested by the fact that this change took place in the word (R) *čeréšnja* 'cherry' as cited in

section 3. The word was borrowed from VLa (Rom) or OBav, in either case no earlier than in the fifth or sixth century A.D.

The change of the velars + *j* occurred earliest during the same period if one judges from examples like SC *Drâč* from La *Durrachium*, R *Seližárovka* from Fi *Särgjärv*, cited in section 4. Cf. also SC place-name *Vrtȁča*, from *vȑt* 'garden' + La suffix *-aceus*. R *kulíč* 'easter cake' is a loan word from MGr κουλλίκι(ον), which could have spread to Sl only after the Sl incursions in the Balkans, i.e. the fifth century.

Ample evidence is at hand as to the chronology of *tj*, *dj* > *ć*(*ć*), *ʒ́*(*ʒ́*). The Fi loan word from Sl, *kaatio* 'hip, trouser leg' (Hung *gatya* 'pants') goes back to the CS word which is reconstructed as **gatja* on the basis of R arch *gáči* 'trousers', OP *gace*, Cz *hace*, Sn *gâče* 'animal scrotum; pants', SC *gȁće* 'trousers', Bg *gášti*. The Fi and Hung words render either Sl *tj* or at best *ć*, not yet *č*. The second component of another Hung word *vármegye* 'district' goes back to Sl **medja* or **meʒ́a*; later, Hung borrowed this word again but this time with the later Bg reflex of *dj*, notably *žd*: Hung *mesgye* [méžd'e] 'boundary'. The two Hung forms reflect the Sl phonetic evolution. It must be inferred that at the time of first Sl-Fi and Sl-Hung contacts Sl still had either *tj*, *dj* or *ć*, *ʒ́*.

CS **l₀aktik₀ā* 'nipplewort' with regular reflexes of *kt* before *i*, identical with those of *tj* (R dial *ločíga*, U *ločýcja* 'wild lettuce', P *łocyka* ~ *locyga*, Sk, Cz *locika*, Sn *ločíka*, SC *lòćika* 'garden lettuce') goes back to La *lactūca* represented in some Rom languages with *ü* from *ū* (and *kt* simplified, cf. Piedmontese *laitüa*, Lombardian *lačüga*, etc.), and again could not have been borrowed before the time of the first Sl-Rom contacts. SC *Brač*, island-name, may go back to Rom *Brattia*. SC *Poreć*, name of a port in Istria, is based on Rom *Parentium*.

Gr place-names of Sl origin as a rule reflect Sl *tj*, *dj* as *st*, *zd*, i.e. they are based on M-Bg *št*, *žd*. But in a few words rendition of CS *ć*, *ʒ́* seems to be found: Πέτσιανη < **pe(k)tjan-* (Macedonia), Κορύτιανη < **korūtjan-* (Epirus), Γοράζο < **g₀ar₀āzdj-* (Crete). These examples are however not quite reliable: the two first may reflect SC *ć*, the third one may be based on later Gr phonetic changes. On the whole the Gr data confirm the above assumption that *tj* and *dj*-reflexes in the Proto-Bg dialects deviated from the CS reflexes of these clusters sooner than in the rest of CS.

A Sl word **batę* 'brother; father' with the palatalization of *t* introduced secondarily in SSl for affective reasons (represented by R *bátja* 'father', Br *bác'ka*, U *bát'ko*, Cz *bát'a* 'brother') still had time to adapt its *t'* to the regular developments of *tj* in SC *baća* 'brother', Bg *baštá* 'father'.

In the FrFr, probably the oldest extant written record of Sl, presenting Sn of the tenth century, the reflexes of *dj* are already *j* (e.g. *ugongenige* = *ugojenje* 'pleasing'), but the reflex of *tj* was obviously still not *č* but a *ć*-type consonant rendered mostly with *k* (*neimoki* = *nemoči* 'ailings', *chokú* = *hoču* 'wish', 1 sg pres, etc.).

All these indications lead to the conclusion that the *j*-clusters in Sl were hardly changed before the fifth century A.D., but rather in the sixth century, and that the law of these changes still operated in the seventh, and for *tj*, *dj*,

even in the eighth and ninth centuries. In terms of general history, the changes of *j*-clusters fall into the time of the great migrations of the Slavs.

Indirectly these considerations are corroborated by striking parallels, albeit not identities, in the phonetic development of Rm. In Rm as in Sl *sj* > *š* (La *camisiam* > Rm *cămáșă* 'shirt', La *sedeō* > **sied-* > Rm *șed-* 'seat'); *kj* > *č* before stressed rounded vowels, *c* in other positions (La *urceolum* > Rm *urciór* 'jug'; *bracchium* > *braț* 'arm'). The reflex of *tj* coalesced with that of *kj* (La *pretium* > Rm *preț* 'price'; *deparciór* 'more remote' < La *-tiorem*), and the reflex of *dj* is *ž* (< **ǯ*) before stressed *o* and *u*, and *z* in other positions (La *medium* > Rm *miez* 'pith', but La *rotundiōrem* > Rm *rotunjór* 'round'). Finally, the clusters *lj*, *nj*, *rj* have also been simplified in Rm yielding, respectively, *j*, *j*, and *r*, e.g. La *folia* > Rm *foáie* 'leaf', La *c̬uneus* > Rm *cúiu* 'nail', La *adiutorium* > Rm *ajutór* 'help'. That *rj* passed through a stage of palatalization is possibly attested by a few instances of affective nature in which *rj* is represented by *j*, e.g. *sai*! 'jump' instead of *sari*!, from *a sări* 'to jump'.

The Rm double reflexes of *kj*, *tj*, and *dj*, of hissing and hushing type allow the student to reconstruct the original stage of the type *ć*, *ʒ́*, also posited for CS reflexes of *tj*, *dj*. As for *j* as the continuation of *lj* and *nj*, it emerged quite late (fifteenth century) from the strongly palatalized *l'*, *n'* which in all probability were identical with the CS reflexes of *lj* and *nj*[13]. The reflexes of *sj* and *rj* are completely identical. Thus, it is plain that for a certain time Rm was characterized by the same treatment of *j*-clusters as CS.

Generally, these palatalizations are rather banal and also occurred in other Rom languages which had no contacts with Sl. These changes were firmly rooted in the history of Rm so that one can easily assume a confluence in the development of the two languages. However, the similarity of the resulting reflexes is too great to be purely haphazard; in addition, there is nothing preventing one from locating them in approximately the same epoch.

To summarize, all sources of information, whether loan words, place-names, early Sl records or comparison with Rm, point to the period of the fifth to eighth centuries as the time when *rj*, *lj*, *nj*, *sj*, *zj*, *kj*, *gj*, *xj*, *tj*, *dj* > *r'*, *l'*, *n'*, *š'*, *ž'*, *č'*, **ǯ'* (> *ž*), *š'*, **ć*(*ć*), **ʒ́*(*ʒ́*) with the further dialectal differentiation of **ć*, **ʒ́* falling probably into the eighth to tenth centuries. For some chronological clues derived from the history of Sl prosodic developments see 33,16.

7. Conditions and effects. Changes in *j*-clusters resulting in their reduction to a single consonant were basically a link in the series of simplifications of consonantal clusters characterized in chapter 13. These simplifications, conditioned by the "phonemically vocalic" type of language assumed by CS, contributed to the further rebuilding of the language making it more "phonetically vocalic" .In both cases the elimination of clusters augmented the number of syllables of the type C + V in speech sequences.

The paradox of the changes of *j*-clusters was that while they were brought

[13] *l'* is still extant in the Rm dialects of Banat.

about by the tendency to reduce the role of consonants they produced a rapid upsurge of new consonantal phonemes, that is, the effect was the exact antithesis to the cause.

The inventory of consonantal phonemes in CS before the rise of the new consonantal phonemes which developed on the basis of *j*-clusters was as follows:

p		*b*	*t*		*d*		*k*	*g*
	m			*n*				
				l				
				r				
	(*v*)		*s*		*z*	(*j*)	*x*	

The set of consonants was small in number and virtually represented by only three series: labials, dentals, and velars, of which only the dental series was fully developed, encompassing a pair of stops and a pair of spirants. The only non-dental spirant was *x*, other spirants being represented by the phonemes which functioned also as sonants. The simplicity of the system was emphasized by the virtual absence of consonantal alternations, except for the positionally conditioned alternations of voiced and voiceless consonants.

The system was seriously reshaped by the changes of *j*-clusters. A whole new set of consonantal phonemes was ushered in: a series of palatals parallelling the series of dentals:

t		*d*	*ć*		*ʒ́*
	n			*n'*	
	l			*l'*	
	r			*r'*	
s		*z*	*š'*		*ž'*
			č'		(*ǯ'*)

For the first time CS developed affricates (*ć* and *ʒ́*, *č'* and *ǯ'*). True, *ǯ'* was soon eliminated by coalescing with *ž'*, and *ć* and *ʒ́* have been eliminated dialectally, but *č'* was to stay.

In addition, consonantal alternations became a linguistic reality. A few illustrations based on later, attested facts, primarily of OCS follow (using the examples cited above):

l : *l'*	*voliti* 'prefer' : *volja* 'will'
n : *n'*	*stenati* 'moan' : *stenjǫ* (1 sg)
r : *r'*	*burьnъ* 'stormy' : *burja* 'storm'
s : *š'*	*vasъ* 'you' (gen) : *vašь* 'your'[14]
z : *ž'*	*vъnoziti* 'stick' : *nožь* 'knife'
k : *č'*	*mękъkъ* 'soft' : *męčь* 'ball'

[14] In OCS -*ъ* follows *s* but -*ь* is automatic after *š'* and other palatal(ized) consonants. This was not the case in CS of the time under discussion. In both cases the consonant was followed by *-*os*, so that the phonemic opposition was concentrated in consonants alone.

g : *ž'* *lъgati* 'tell lies' : *lъžǫ* (1 sg)
x : *š'* *duxъ* 'ghost' : *duša* 'soul'
t : **ć* *pitati* 'feed' : *pišta* 'food'
d : **ʒ́* *gospodь* 'lord' : *gospožda* 'lady'[15].

As sometimes happens in language histories the blind tendency toward simplification which arose in CS as a reaction against the overgrowth of vocalic phonemes generated the opposite effect: extreme complication. Now CS was becoming a language with a well developed system of monophthongs and diphthongs, a well developed system of oppositions in quantity (in vowels) and pitch, a well developed system of vowel alternations, and a well developed system of consonants and consonantal alternations.

This situation called for drastic changes in CS and actually ushered in a period of extensive mutations. In time, they coincided with the great migrations of the Slavs. It may seem tempting to relate the two phenomena, but there is hardly any positive proof of ties between the language changes and the rapid acceleration of historical events and changes in the life of the Slavs. It remains a matter of personal taste whether one accepts the correlation between Sl linguistic and historical developments at that time. Whatever point of view is taken, the linguistic development of CS is understandable in itself. Extra-linguistic facts are not required to grasp the evolution of, and the mutations in, the CS language.

The major changes in late CS caused by the overabundance and, thus, in a sense partly redundant character of its phonemic system proceeded along three main lines: redistribution of phonemic values between vowels and consonants within a syllable; simplification of the system of vowels and shriveling of vowel alternations; and, finally, a series of essential upheavals in the accentual system.

In completing the evaluation of the changes in *j*-clusters it is worth-while to emphasize explicitly that a dialectal division of major importance developed for the first time within CS concerning a phoneme, not one word (as it was in the case of (OCS) *sedmъ* 'seventh', see 13,4): Proto-Bg and possibly some Proto-M dialects had a separate treatment for **ćć*, **ʒ́ʒ́* < *tj*, *dj*. Whether this was the result of tribal regroupings, the speakers of these dialects belonging to the advanced detachments of Slavs invading the Balkans, cannot be proved or disproved but it is quite plausible. This did not preclude later common developments of these dialects and the rest of CS, but it was the first harbinger of the forthcoming disintegration of CS.

8. Labials + *j*. The general pattern in the elimination of consonantal clusters with *j* as outlined in section 5, notably a kind of reciprocal assimilation in the course of which dentals and velars shifted their articulation toward the palate and, then, absorbed *j*, probably through an ephemeral stage of geminated

[15] About partial overlapping in alternations of *tj* and *dj*-series with those of *k* and *g* see 21,8.

palatal consonants, could not apply to labials. The articulation on the lips cannot be shifted to the palate. Because of this articulatorily imposed impossibility the labial + *j*-clusters escaped transformation into a single consonant.

However, they also became involved in the changes of *j*-clusters. Apparently as a result of the development of *lj* into *l'* with the intermediate stage of **l'l'* an interchangeability of *j* and *l'* in postconsonantal position developed (Cf. the later developments in Rm, as characterized in section 6). Then, since *l'* had a slightly more front articulation than *j*, i. e. closer to the articulatory position of the labials, *l'* tended to replace *j* after labials. Another factor which strongly contributed to the change *j* > *l'* after labials was that the degree of sonority in *l'* is higher than in *j*, thus the constantly increasing wave of sonority was secured in syllables of the type *bl'a*, not so clearly the case in syllables of the type *bja*. The change *j* > *l'* after labials was, consequently, in conformity with the tendency toward syllables having maximum sonority in their final component and minimum in the initial one. Thus *bj*, *pj*, *mj* became interchangeable with *bl'*, *pl'*, *ml'* until the clusters of the first type were superseded by the latter. One more circumstance favoring the change in labials – *j* was that *j*-clusters were generaly becoming atypical in CS while *l*-clusters were still quite normal.

This change did not affect the phonemic system of CS and for this reason as well as because of the articulatory proximity between *j* and *l'* after consonants, it was easily reversible. Knowledge of this fact is important in discussing the debatable problem in the development of the clusters labial + *j*: whether the substitution of *l'* for *j* was a common Sl phenomenon or dialectal.

Doubts concerning the common Sl character of the change *j* > *l'* after labials in non-initial position were aroused by the distribution of facts in the attested Sl languages. This may be illustrated by the example:

R, U *zemljá* 'earth', Br *zjamljá*, Sn *zémlja*, SC *zèmlja* but P *ziemia*, LS, US *zemja*, Pb *zíńă* (simia), Sk *zem*, Cz *země*, M *zemja*, Bg *zemjá* as compared to Li *žẽmė*, Le *zeme*, OPr *semme*, Av *zam-*, Gr χαμαί 'on earth', La *humus*. OCS had *zemlja* and *zemja*, but adj. only *zemьnъ*.

The same is found in loan words:

R *konopljá* 'hemp', Br *kanópli*, U *konópli*, Sn *konóplja*, SC *kònoplja*, but P *konop* ~ *konopie*, LS, US *konopje*, Sk *konope*, Cz *konopě*, M *konop*, Bg *konóp*, from VLa **canapis*, as in Rm *cînepă*, It *canapo*;

R *korábl'* 'ship', Br *karabél'*, U *korabél'*, SC *kȍrābalj* (~ *kȍrāb*) but P *korab*, LS *korabje* 'carcass', Sk, Cz *koráb* 'ship', M *korab*, Bg *kórab*, from Gr καράβιον (~ κάραβος). OCS had *korabljь* and *korabь* used almost equally frequently, *korabicь* 'small boat' and rarely *korabljicь* (Zo).

As is evident from the examples, R, Br, U, Sn, and SC have *l'* from *j* after labials, OCS shows characteristic interchangeability, other Sl languages as a rule have no *l'*.

This situation is, however, not a direct continuation of the late CS distribution. Those Sl languages which normally have no *l'* from *j* still have *l'* from *j* after labials in the initial position, e.g.:

OCS *pljьvati* 'spit', R *plevát'*, Br *pljuvác'*, U *pljuváty*, Sn *pljuváti*, SC *pljùvati*,

and in the same way P *pluć*, LS *pluwaś*, US *pluwać*, Sk *pl'ut'*, Cz *plíti*, M *plue*, Bg *pljúja* as cognate to Li *spiáuti*, La *spuō*;

Cf. in a loan word: OCS *bljudo* 'dish', R, U *bljúdo*, Br *bljúda*, SC *bljȕdo*, and in the same way P *bludo*, LS, US *blido* 'table', Bg *bljúdo* 'dish', from Go *biuþs*, gen *biudis* 'dish'.

Initial clusters labial + *j* have been so consistently eliminated from CS that their reflexes are indiscernible, within Sl, from the original clusters labial + *l* (except occasionally by distinction of *l* vs. *l'*). The latter are represented in the following examples:

U *bljuznýty* 'blaspheme', P *bluzgać* 'splash', Sn *bljûzgati* 'stir up', SC *bljȕzgati* 'babble; chat', related to Li *bliaũžyti* 'talk rubbish', Le *blũžģinât* 'stir up (water)';

R *bléjat'* 'bleat', U *bléjaty*, Sn *blẹ́jati*, SC *bléjati*, M *blee*, Bg *bléja* – Le *blêt*, La *flēre* 'weep', MHG *blæjen*.

Besides the initial position where there are no discrepancies among Sl languages, those which otherwise have no *l'* from *j* after labials display scattered instances with this *l'* in place-names or isolated words.

Cz has place-names *Liblín*, *Počeplice*, *Davle*, *Vidovle*. Fourteenth-fifteenth century records of Sk place-names contain *Rybl'any*, *Chlevl'any* (*Riblyen*, *Hleulan*, now *Rybany*, *Chlievany*). Sk also has *hrobl'a* 'dam' strictly corresponding to LS *groble*, vs. US *hrebja*, OCz *hrobě* 'pile'. US shows doublets *krjepja* ~ *krjepjel* ~ *krjepjen* 'drop' in contradistinction to Cz *kápě*, while P, in its turn, has doublets *kapia* ~ *kapla*. Whereas OCz has *čiepě* 'stork' (Mo Cz *čáp*) US shows *čapla*, LS *capla*, and P *czapla*. The P form is attested as early as about 1136 (*Scaple*, place-name). Ka has *kʷónopla* 'hemp'. Examples of *l'* retained are particularly numerous in P where one finds, in addition to the words cited, *dziupla* 'hollow', *grobla* 'dam' (in OP both *grobla* and *grobia*; cf. *Grobe*, place-name in district Oldenburg, recorded ab. 1222, for WLechitic). In the seventeenth century one finds P *niemowiątko* 'baby' (Knapski, W. Potocki), *kropia* 'drop' (Potocki), *w przerębli* ~ *przerębi* 'in ice hole', while Mo P has *niemowlę*, *kropla*, *przerębla*. Bg also has remnants of *l'* < *j* in place-names as *Koprivlen*, *Popovi Drəvlja*, as well as in the word *momljáče* 'girlie', dial *grəmljávica* 'thunder'; whether onomatopoeic *bə́blja* 'gurgle' and *fə́flja* 'drawl' have *l'* of the same origin is uncertain.

Examples of this type lead the student to reconstruct a period of CS interchangeability of *l'* with *j* after labials, possibly shared with Rm (where it was not limited to this position). Only in the specific developments of each individual Sl language was this interchangeability eliminated. In initial position *l'* won out everywhere because Sl had in many words clusters C + *l* but by that time no more clusters C + *j*. In non-initial position the trend toward *l'* < *j* was hindered by the alternation of forms with and without *l*, such as R *zemljá* vs. *zem'* (*ná zem'*), *káplja* vs. *kápat'*, etc. This conflict between the tendency toward the complete elimination of *j*-clusters and the tendency to uniformity of a given morpheme was solved in various ways by the different Sl languages: R, Br, U, Sn, and SC consistently generalized *l'*; other Sl languages (like Rm) started restoring *j*. The first trend was phonetically motivated, therefore it

admitted virtually no exceptions. The second trend was, at least at the outset, morphologically motivated; therefore it spread gradually from word to word. As a result, individual words, especially place-names, escaped the trend.

A reliable testimony that the latter trend operated in Sl is furnished by a few hypercorrect forms, with *l* after labials replaced by *j* although this *l* was original. This is the case of P *grabie* (along with *grable*) 'rake', LS *grabje*, US *hrabje*, Cz *hrabě* as related to Li *grė́blỹs*, Le *greblis*. Among the *j*-languages the correct form is found in Ka *grable*, Pb *groblé* (groblê), Sk *hrable*. Hung *száblya* 'sabre' (cf. *szabui* 'cut') is normally represented by R *sáblja*, Br, U *šáblja*, P *szabla*, Sk *šabl'a*, Cz *šavle*, Sn *sâblja*, SC *sȁblja*, but M has *sabja* and Bg *sábja*. Pb reveals a fluctuation between *bl'au̯cą* (bilgautzang, 3 pl) and *b'áu̯cə* (bigautza, 3 sg) 'bell'[16].

The ESl generalization of *l'* after lablias expanded beyond Sl. It is found in Le (where later *l̦* was eliminated in word-final position) and OPr. In ESl itself, however, rare traces of interchangeable *l'* ~ *j* may be still discovered, but in positions other than immediately after labials: R *ščavél'* 'sorrel' but dial *ščavéj* (Kostroma area); OBr *Homej*, town-name vs. R *Gómel'*; U *šul'há* 'left-hander' vs. OCS *šui* (= *šujь*) 'left', Sn *šûj*, etc.

The chronology of the CS change labial + *j* >< labial + *l'* is determined by loan words as cited above: VLa **canapis*, Gr *καράβιον*, Hung *száblya* which were in various ways involved in this interchangeability as well as the fluctuations reflected in OCS texts point to the period of late CS before its disintegration. The elimination of option in the use of *l'* or *j* after labials, as indicated above, falls into the histories of individual Sl languages.

The development characterized in this section took place after *p*, *b*, *m*. If it also took place after *v*, which at that time had the status of a sonant, so that whether *v* played the part of a diphthongal component or of a consonant was determined positionally is a special problem. It shall be examined in 19,10.

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[16] An assumption was made (Mikkola *et al.*) that *l'* never developed before *ĭ*. It is based on the statistical observation that in OCS *l'* is rarer in *zem(lj)i* 'earth' (dat-loc sg) than *zemlję* (gen sg), in *korabicь* 'small boat' than *korablja* 'ship' (gen sg), and on the fact that OR *obьža* 'a unit of land to be ploughed by one man with one horse', from *$_o$*ab* + *jig* + *j* + $_o$*ā* < *$_o$*ab* + *jug* + *j* + $_o$*ā* (Cf. R *ígo* 'yoke') has no *l'* after *b*. But the data on *zemi* and *korabicь* are available from OCS only; and *$_o$*abjugj*$_o$*ā* could easily have lost the root initial *j-* by dissimilation with the second *j* (Cf. the same type of dissimilation in OCS *tuždь* 'strange' as analyzed in the footnote to section 5). The evidence of the development of *kt* > *tj* before *ĭ* (See 14,3) shows, on the other hand, that CS did not have any special tendency to drop *j* before *ĭ* nor to treat it in any special way. Cf. also OR *Putivlь*, town-name, and *putivliči* 'inhabitants of Putivl'' (Laur, 1223), Br *Lépel'*, lake near Vitebsk, from Le **Lepj-* as derived from *lēpa* 'water lily'.

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1. General statement. 2. Loss of final sonants. 3. Loss of final stops. 4. Loss of final *s* and *x*. 5. Summary. 6. Outlook. 7. *n*- mobile. 8. *s*- mobile. 9. Problem of *k*- mobile.

1. All word-final consonants were lost in CS except in those words which never occurred in an absolute final (utterance-final) position, i.e. primarily prepositions, e.g. OCS *iz* 'from', *bez* 'without', *vъz* 'up to', *ob* 'around' (along with *obь*), *raz-* 'asunder' (in OCS a prefix, but cf. as a preposition in Sn: "Novica ... je bila oglašena raz leco" – Kersnik, "Testament": 'the news was announced from the pulpit'). The loss of final consonants must be partially ascribed to simplifications of consonantal clusters which were occasionally arising on word boundaries. Yet some of the final consonants were lost independently of the simplifications of consonantal clusters and at an earlier period. At least three chronological layers are to be distinguished: the loss of final resonants is the oldest phenomenon in the series; it took place before the trend to eliminate certain consonantal clusters arose. The second layer involved the loss of final stops. The most recent development was the loss of final *s* (and *x*).

2. Loss of final sonants. Final nasal sonants following short vowels were dropped in CS. This is well represented by the endings of several morphological categories:

acc sg of *u*-, *i*- and consonantal stems: **sūnum* 'son' > **sūnu* (OCS *synъ*); **p$_o$aNtim* 'road' > **p$_o$aNti* (OCS *pǫtь*), **k$_o$ām$_e$anm̥* > **k$_o$ām$_e$anim* > **k$_o$ām$_e$ani* (OCS *kamenь*). This also applies to *o*-stems with the complication that *o* > *u* before final nasals (See 10, 6): **vilkom* 'wolf' > **vilkum* > **vilku* (OCS *vlъkъ*);

loc sg of consonantal stems: **sl$_o$av$_e$as$_e$a*N 'word' > **sl$_o$av$_e$as$_e$a* (OCS *slovese*);

gen pl of subst declension (again with *o* > *u* before final nasals in *o*-stems), e.g. **vilko*N > **vilku*N > **vilku* (OCS *vlъkъ*);

nom sg **ēǵ'om* 'I' > **ēzum* > **ēzu* (OCS *azъ*, with another grade of the root vowel);

acc sg masc of the pronominal declension, e.g. **to*N 'that' > **tu*N > **tu* (OCS *tъ*);

1 sg aor, e.g. **p$_o$ādo*N 'fall' > **p$_o$ādu*N > **p$_o$ādu* (OCS *padъ*), cf. OI *bháram*, Gr φέρον.

In a position after a long vowel final nasal sonants were retained as seen from the acc sg of *ā*-stems, e.g. **d$_o$aivā*N 'girl' (OCS *děvǫ*. See also 4,11b); instr sg of *ā*-stems with the same ending (as possibly represented by OCS forms of the type *rǫkǫ* 'hand'); acc sg of the pron 1 and 2 sg: **mē*N, *t*(*u̯*)*ē*N (OCS *mę*, *tę*); and 1 sg pres, e.g **n$_e$asō*N 'carry' (OCS *nesǫ*).

The relative chronology of the loss of final nasal consonants after short

vowels is established by the following considerations: it probably occurred after the devocalization of syllabic sonants as is shown by the loss of -N in the acc sg of the consonantal stems, which proceeded in the same way as in *i*-stems (Cf. above the examples *pǫtь* and *kamenь*); one of the prerequisites for the loss of final nasal consonants, the development *o* > *u* before final N, should have arisen before *o* and *a* fell together: a vowel of much broader aperture $_{o}a$ hardly could have yielded *u*. Yet, on the other hand, the identical development in consonantal stems with *i*-stems could have been due to a mere morphological analogy; and the loss of final nasal consonants did not necessarily have to follow the change *o* > *u* before final nasal consonants immediately.

It is often assumed, and probably rightly so, that the loss of final nasal consonants should have occurred prior to the loss of final -*s* because the nasal consonant was preserved if originally followed by -*s* (or -*ts*, which also gave -*s* as all *ts*-clusters did. See 13,2); this is usually illustrated by the nom sg masc of act pres part. Their original ending was * -*o*N*ts*, later *-*o*N*s*, and after the loss of -*s*, *ōN (represented, after *j*, as *ę* in OCS, e.g. *znaję* 'knowing').

However the crucial chronological clue is the fact that -N was not lost after long vowels. As a group V + N was treated in CS as a diphthong, long vowels could have existed before -N as long as long diphthongs were admitted in CS; e.g., in the acc sg -N was lost in *o*-stems (*vilku*N > *vilku*, OCS *vlьkъ* 'wolf') but not in -*ā*-stems (*nogā*N > $n_{o}ag_{o}a$N, OCS *nogǫ* 'foot'). Consequently, the loss of -N took place before the loss of long diphthongs[1].

Attribution of the loss of final nasal consonants to an early period of CS, not contradicted by the facts referred to above, is corroborated by a general consideration: the loss of -N cannot be linked to the trend toward simplification of consonantal clusters. As shown in chapter 13, nasal consonants were not dropped even in a position before an other consonant or consonants. Thus, the loss of final nasal consonants is a phenomenon limited to word-final position only. At the time in which most consonantal clusters were simplified no special phenomena bound to word-final position are observed. This is only natural in a language of a "phonemically and phonetically vocalic" type with no strong dynamic stress, such as CS of that time. A slight weakening of articulation in the word-final position may more convincingly be expected for a period when final syllables, except in monosyllabic words, were thoroughly unstressed. Such a time was posited in 4,14 after the abolition of IE stress and before Fortunatov's law started operating. This is the most plausible period for final nasal consonants preceded by a short vowel to have been dropped. Long vowels precluded such a slackening of word-end articulations, a circumstance which also fits well in the supposed pattern of CS of that time.

There is no sufficient evidence as to the treatment of final -*r* and -*l*. In the cases of IE words in -*r*, -*l*, extended forms are often found in CS with *-*os*,

[1] It was much later, after the loss of final *s*, that length was reintroduced before -N in endings of the -*o*N*s*, -*u*N*s*, -*ī*N*s*, -*a*N*s* type. In OCS these endings are usually represented by -*y*.

*-*jos*, or *-*ā* added, so that *-r* and *-l* have been preserved but not as final consonants, e.g. OCS *bratrъ* 'brother' < **brₒātr* + *os*, cf. La *frāter*, Ir *brāthir*, Go *brōþar*, etc.; OCS (*prija*)*telь* 'friend' < *-*tₒal* + *jos*, declined as *jo-stem* in sg, but still as a consonantal stem in pl. (Cf. OHG *friudil*, Hi *-tal-oš*); OCS *sestra* 'sister', cf. Arm *k'oir*, La *soror*, Go *swistar*, etc. That IE final *r* which remained final has been lost, cf. OCS *mati* 'mother', *dъšti* 'daughter', but in these words both the *-r*-form and the form without *-r-* occur in other IE languages, such as Li *mótė*, *duktė̃*, OI *mātā́*, *duhitā́* vs. Gr μήτηρ, θυγάτηρ, La *māter*, GO *daúhtar*; Hi has doublets *paprātar* ~ *paprāta* 'dirtiness', *ḫatreššar* ~ *ḫatrešša* 'message', etc. Thus, it cannot be determined if CS dropped *-r* or inherited IE forms without *-r*. An argument favoring the view that *-r* was lost in Sl can be based on the discrepancy between OI d*ēvā́* 'brother-in-law' and Sl (RChSl) *děverь* if interpreted as showing an independent Sl treatment of *-r* in comparison to OI. However, the only statement which may be made safely is that late CS did not have any words ending in *-r* or *-l*.

If final *r* and *l* were lost in CS this occurred in its early history before the loss of -N took place.

3. Loss of final stops. In the endings which CS inherited from IE final stops were rare, in fact only dental stops were represented. Final *d* is reconstructed for the abl-gen sg of *o*-stems (*-*ōd*, cf. OI *vṛ́kād* 'wolf'), and for the nom-acc sg neut in the pronominal declension (**tod* 'that', cf. La *is-tud*). It was lost in both cases without affecting the quality of the preceding vowel, cf. OCS *vlьk-a* 'wolf', gen sg, *to* 'that'. The first component of OCS *čь-to* 'what' also presumably ended originally in *-d*, cf. OI *cid*, an enclitic particle, Av *čit*, La *quid*[2].

Final *t* was represented in the so-called secondary endings (OCS aor and impf) of 3 sg and 3 pl: *-*e*(*s*)*t*, *-*n̥t*, as well as in the opt (Sl imp) *-*oit*. Again the loss of *-t* did not involve any changes in the preceding vowel: OCS *pade*, *padǫ* 'fall' (aor). As for the subst in *-*ent* (OCS *agnę* 'lamb'), they probably had *-s* after *t*; in the cluster *ts* the stop was lost and thus the ending became *-*ens*, which may account for length of *e* revealed by the RP on the ending (See 4,10e).

CS shared the loss of final dental stops with Balt. The endings of OI *tad*, La *quod* have as their equivalent in Balt Li *tà* 'that' (fem), Le, OPr *ka* 'that' (conj). No *-t* is used in 3 sg and pl „thematic" endings, e.g. Li *tùri* 'have', Le *turi* 'hold', OPr *turri* 'have'. Also Rm lost *-t*, *-d*, e.g. *e* < La *est* 'is', *laudă* < La *laudant* 'praise' (3 pl), *cap* (ORm **capu*) < La *caput* 'head', *a* < La *ad*, preposition. But Rm shares this change with Dalm and It and there are no indications that Rm underwent this change together with Sl. Nor are there proofs that this was a common Sl and Balt innovation. It is however, characteristic that as a result of these independent developments final dental stops were not admitted in the extensive area form the Baltic to the Mediterranean (Gr also lost its final *t* and *d*) during a certain time.

[2] But if followed by a particle *-d* was to be preserved. This is possibly the case of OCS *tožde* 'also' if it goes back to **tod* + *je* (Vaillant).

The relative chronology of the loss of word-final dental stops in CS is established by the fact that *s* followed by *t* was also lost: 3 sg aor ending *-est became *-e*, with an intermediate stage *-es. It implies that the loss of final dental stops preceded the loss of final *s*. On the other hand, the loss of final dental stops, in contrast with the loss of final nasal consonants, can and probably must be linked to the simplification of the consonantal clusters of the types stop + spirant, stop + stop, and stop + occlusive sonant in CS (See chapter 13). It was but an application of the same principle to consonantal clusters on word boundaries.

These considerations set the loss of final dental stops in the chronological framework of approximately the beginning of our era, as tentatively suggested in 13,9. This is supported by the treatment of Go *ūt* 'outside' represented in Sl as the prefix *vy-* (< *ū), with *-t* lost.

4. Loss of final *s* and *x*. On the basis of comparative IE evidence, final *s* is supposed to have occurred in the following endings: nom sg of masc *o*-stems: vilk-$_o$as, and of neut *s*-stems: *sl$_o$av-$_o$as; gen sg of *ā*-stems: *g$_e$an-$_o$ās and of consonantal stems: *sl$_o$av-$_e$as$_e$as; in the nom pl of *u*-stems: *sūn-$_o$au$_e$as, *i*-stems: *p$_o$aNt-$_e$ai$_e$as, *ā*-stems: *g$_e$an-$_o$ās, and non-neut consonantal stems: *m$_o$āt-$_e$ar$_e$as; in all forms of the acc pl, e.g. in *o*-stems: *vilk-oNs; in nom sg of act pres part, e.g. *v$_e$adoNts > *v$_e$ad-oNs; and finally in 2 sg aor, e.g. *v$_e$ad-$_e$a(s)s > *v$_e$ad-$_e$as. All these forms appear in the attested Sl languages without *-s*, e.g. OCS *vlъkъ*, *slovo*, *ženy*, *slovese*, *synove*, *pǫtije*, *ženy*, *matere (attested *materi*, influenced by *i*-stems), *vlъky*, *vedy*, *vede*.

Final *x* was treated in like manner. It may be assumed for endings which in IE had *-s* after *i* and *u* (See 8,1), viz.: nom sg of *u*-stems: *sūn-ux, *i*-stems: *n$_o$ać-ix and *ū*-stems: *sv$_e$akr-ūx; gen sg of *u*-stems: *sūn-$_o$aux, and *i*-stems: *n$_o$ać-$_e$aix; dat pl of all stems, e.g. *o*-stems: *vilk-$_o$amux, instr pl of all stems, e.g. *u*-stems: *sūn-umīx, and gen-loc du of all stems, e.g. in *u*-stems: *sūn-$_o$au-$_o$aux; in nom sg of act past part, e.g. *v$_e$ad-ux, and, finally, in 3 sg opt (Sl imp): *v$_e$ad-$_o$aix. All these forms are attested without *-x* in the historical Sl languages, e.g. OCS *synъ*, *noštь*, *svekry*, *synu*, *nošti*, *vlъkomъ*, *synъmi*, *synovu*, *vedъ*, *vedi*.

Final *s* and *x* were lost later than final nasal consonants, as shown in section 2. The loss of *-s* was also preceded by the loss of *-t* (See section 3). This is to say that *s* and *x* were chronologically the last final consonants to be dropped.

Other facts and considerations confirm this assumption. Geographically, the loss of *-s* and *-x* is more limited than that of *-t* and *-d*: Balt preserves its final *-s*, cf. Li *vil̃kas* 'wolf', *sūnùs* 'son', *sūnaũs* (gen sg), etc.

The late date of the loss of *-s* and *-x* in Sl is directly corroborated by the treatment of Go loan words in Sl. E.g. Go *kuniŋyaz (or its Germ parallel) which survives in Li as *kùnigas* 'priest' and in Fi as *kuningas* 'king', appears in Sl as (OCS) *kъnęʒь*. Obviously, in Sl *-s* was lost after the borrowing had been made (Borrowing from OHG is less plausible). Rm and Dalm like Sl have lost their *-s*, cf. Rm *lup(u)* 'wolf', *porc(u)* 'pig' as compared with La *lupus*, *porcus*,

etc[3]. Although this characterizes It as well nothing prevents one from considering this treatment of *-s* as common Sl-Rm and consequently referring it to approximately the sixth century.

Unlike the loss of *-t* and *-d*, the reason for the loss of *-s* and *-x* was not of phonetic nature. On word boundaries *-s* and *-x* often entered in combination with the initial consonants of the next word, forming various clusters. But CS tolerated *s* as first component of consonantal clusters (See 13,8), and there is no evidence of not tolerating *x* which was but another spirant. The cause for the loss of *-s* and *-x* must be sought in the general status of final consonants created by the loss of *-t*, *-d*, and to a certain degree *-N*. The loss of these final consonants was not a rapid change. The final consonants were first dropped in the position before words with initial consonants, while *-t*, *-d*, etc. were still preserved before words beginning in a vowel. Thus, the same words might have been used in certain cases without *-t*, *-d*, in other cases with them. Final *t* and *d* became optional, use of forms like **tod* ~ *to* 'that' (neut) was just a matter of choice. An idea of this situation can be supplied by the use of two forms of the preposition *ob* ~ *o*, e.g. in Mo R *ob ogné* 'about fire', before a vowel, but *o gnéve* 'about anger', before a consonant. The distribution of the two forms is rather strongly regulated in standard R but much freer in dialects and substandard R where constructions of the type *ob nëm* 'about him', etc. are by no means rare.

This optionality in the use of final consonants was generalized and transferred onto *-s* and *-x*. One has to assume a period during which forms like **vilkos* and **vilko*, etc., enjoyed equal status. Only gradually have forms without *-s* and *-x* prevailed as more economical, particularly after the development of prothetic consonants (See chapter 16) which made initial vowels rare and by the same token deprived the *-s* and *-x*-forms of their *raison d'être*.

While in the attested Sl languages *-s* is entirely lost as a word final consonant, it was proposed that it still could be unearthed in certain suffixes. A suggestion was made (Torbiörnsson) that the suffix *-oš* as represented, e.g., by P *bialosz* 'white rock', *Dlugosz*, personal name, Cz *panoš* 'armor bearer', SC *Njẽgoš*, personal name, etc., is the continuation of CS **-os* + *j*(+*os*), with the second *s* normally lost whereas the first *s* (merged with *j* into *š*) as well as the preceding *o* were preserved because they were no longer in final position. The same may be applied to the suffix *-ist-* inasmuch as it derives adj from *i*-stem subst, such as R *kostistyj* 'bony', P *kościsty*, etc. Although tempting, this suggestion is hardly acceptable. The very procedure of adding a suffix to an ending seems to be implausible. CS word derivation as a system is insufficiently studied but from the data available this would have been a unique procedure.

The loss of *-s* and *-x* did not cause any changes in the preceding vowel except possibly if between the vowel and *-s* there was a nasal consonant (See 22,12). This is only natural in the light of the above-mentioned reason for the loss. It was not a sudden phonetic change but the gradual elimination of these final consonants through their optionality. Under these conditions there were

[3] Rm subst forms in *-u* could have developed from the acc sg in *-um* as well.

no prerequisites for phonetic change of preceding vowels. If in the nom sg of masc *o*-stems, *-o-* was replaced by *-u-*, this resulted from the interplay of morphological factors, primarily the influence of the acc sg and the need to distinguish masc from the nom sg neut, as shown in 10,6.

5. Summary. With the loss of *-s* and *-x* no more final consonants were admitted in CS words which could occur in absolute final (utterance final) position. The abolition of final consonants, as shown in sections 2-4, consisted of several changes separated from each other by considerably long periods of time; and each of these changes had its own motivation. This may be summarized in the following chart:

Final consonant lost	Approximate time	Reason for the loss	Also ocurring in or shared with
r	Dialectal IE or very early CS	Structure of paradigm in consonantal stems	Balt, OI
N	Before the first century B.C.	Weakening of unstressed short final syllables	[Rm]
t, d	Beginning of Christian era	Elimination of consonantal clusters	Balt, Dalm, Rm [Gr]
s, x	ca. sixth century A.D.	Optionality of final consonants	Rm, Dalm

Because of the extensive time span and variety of reasons one cannot speak of a special "tendency" of CS to elimination of final consonants. The absence of final consonants in late CS was the result of a series of variously motivated changes, not of a single "aim".

6. Outlook. As heterogeneous as the losses of various types of final consonants were, in their ultimate result, i.e. after the loss of *-s* and *-x*, they produced a new rule concerning the structure of the CS word: since that time every full-fledged, i.e. not proclitic word, could end only in a vowel. This had an immediate bearing on the further growth of the number of open syllables. It was one more step toward what is conventionally labeled as a "phonetically vocalic" type of language, i.e. ideally a language whose sound sequences would be built according to the formula CVCVCV, etc. On word boundaries, after the loss of final consonants, occasional consonantal clusters no longer occurred; on the other hand, the frequency of hiatus had to increase. Hiatus now was to arise with every word beginning in a vowel. The problem of hiatus was to be tackled in the subsequent history of Sl (See 16,8).

The loss of final consonants was fraught with consequences for CS morphology. Certain endings coincided after final consonants were lost, e.g. 2 and 3 sg aor (OCS *vede*, *vede* 'lead'); nom and acc sg of *u*- and *i*-stems resp. (OCS *synъ*,*synъ* 'son', *noštь*, *noštь* 'night'); gen sg and nom-acc du of *o*-stems (OCS *vlьka*, *vlьka* 'wolf'); gen and dat sg of *i*-stems (OCS *nošti*, *nošti*). Lack of differentiation between the nom and acc sg in most declensional types became an earmark of

CS till its very disintegration. Two other threatening mergers, that of nom-acc sg of masc *o-* and *u*-stems with the same form of neut, on the one hand, and of the nom and gen sg of *ā*-stems, on the other, (nom sg in *-ā*, gen sg in *ās* > *ā*) were averted by morphological regroupings. The first of these regroupings was briefly outlined in 10,6; more detailed treatment belongs to historical morphology.

A specific phenomenon generated by the transition from the older structure, with word-final consonants admitted, to the new one, with word-final vowels only, was the mobile consonants, i.e. consonants sometimes used, sometimes dropped on word boundaries. Logically, one would assume that all consonants could have been and were used as mobile. However, the only discoverable mobile consonants in the attested languages are those which stuck to succeeding words in a process of perintegration (metanalysis) when the type of words ending in a vowel prevailed definitively. This is true of *n* and *s*. The stops, *t* and *d*, were not preserved at all. This is due to their relative rarity in final position and their greater liability to loss when an occasional cluster might arise on a word boundary. For details, see sections 7 and 8.

7. *n-* mobile. The once final *n* attracted to the beginning of the following word is only attested in Sl in a few words often used with the prepositions (and/or prefixes) **u*N, **ku*N, **su*N (OCS *vъ* 'in', *kъ* 'to', *sъ* 'with')[4]. This limitation agrees with the fact that -N was lost early, before the series of simplifications in consonantal clusters began. Consequently, -N did not generally participate in the interplay of optional consonants on word boundaries. But in the three prepositions parallel forms, with and without -N, could have existed because these words could have been used both prepositionally and postpositionally. In the first case, -N was to be preserved, in the second lost. In general, the retention of *n* depended on shifts of morphemic boundaries within an intonational word, i.e. on the boundaries of a prefix + a root or a preposition + a root.

The following words illustrate these shifts of morphemic boundaries:

OCS *jadra* 'bosom', OR *jadro*, Sn *jádro* 'belly, swelling', cognate of Gr ἦτορ 'heart', Ir *in-athar* 'entrails', OHG *âdara* 'vein' (with *d* instead of *t* in Sl due to a blending with a root represented, e.g., by OI *udáram* 'belly') vs. R *nédra* 'womb', U *nádra* 'bosom', P *niadro*, LS, US *nadra* 'breasts', Sk *ňadrá* 'bosom', Cz *ňadra*, Sn *nádra*, SC *njȅdra*, Bg *nedrá*. The provenance of *n-* from the prepositions is still visible in OCS examples like *vъ|n|ědra*, *vъ|n|ědrěxъ* (PS, Su). The original morpheme boundary was after *vъn*; when regularly *vъn* > *vъ*, in the phrase *vъnědra n* was assigned to the root.

The same development took place in R, Br *nutró* 'entrails', Sn *nôter* 'in' (direction), SC *nȕtrinja* 'entrails' based on such forms as OCS *vъnǫtrь* 'in', R *vnutr'*, P *wewnątrz*, LS *wnutś*, Sk *vnutor*, Cz *vnutř*, SC *unútar*, Bg *vnə̂tre*, but also *və̂tre*, the latter leading directly to the original forms without *n-* as represented by OCS *ǫtroba* 'womb', R *utróba*, P *wątroba* 'lever', LS *wutšoba* 'heart', US *wutroba* 'entrails', Sk, Cz *útroba*, Sn *vǫ́troba*, SC *ȕtrobica* 'lever'.

Cf. also OCS *jadь* ~ *sъnědь* 'meal', *iskati* ~ *sъniskati* 'seek', *vъnušiti* ~ *vъušiti* 'harken' (from *uxo* 'ear') and, with *n-* attached to roots, SC dial *nȕgao* 'corner' vs.

[4] CS **u*N is a zero grade to OPr *en* 'in' etc. (See 16,2); CS **ku*N is traceable back to OI *kam*, Av *kąm* 'for' (used with the dat); CS **su*N is probably the continuation of two IE words: one represented by Li *sán-* ~ *są-* 'with', Le *suo-*, OPr *san-* ~ *sen-*, OI *sam* ~ *sa*, Av *ham-*, Gr ὁμος 'common', La *similis* 'similar', ON *sam-* 'together', and the other one represented by La *cum* 'with', Ir *com-* ~ *con-*. The merger of the two was conditioned phonetically, by the change of *k'* into *s*.

SC standard *ȕgao*; LS *nugel* 'corner', US *nuhel*; US *njerk* ~ *jerk* 'spawn'; LS *jěsćije* 'oven mouth' vs. US *něsć* 'oven'; Cz *vendu* 'come in' (1 sg), etc.

This reassigned *n-* is best preserved in oblique cases of the 3rd person pron, although no Sl language retained the original use of *n-* after (OCS) *vъ*, *kъ*, *sъ* only. Three main types of adaptations are found:

1. *n-* is generalized after all prepositions;
2. *n-* is generalized everywhere;
3. *n-* is lost.

The first type is represented by R (cf. gen sg *egó* vs. *iz negó*), U (but instr sg is only *nym*, *néju*, and instr pl *nýmy*), P, LS, US, Sk (the same qualification for instr), and Cz. The second type is represented by Sn (cf. gen sg *njéga* as well as *do njéga*), SC, M, and Bg. Br represents the third type. The dead languages, OCS and Pb, also belonged to the first type which was apparently typical of late CS as well. The second and the third types are innovations proceeding in two opposite directions.

The reassigned *n-* has been best preserved and generalized in the CS third person pron because these pronouns were more frequently used with prepositions; because a special function of indicating dependence on a preposition was attached to *n-* forms; and above all because *n-* which formed a cluster with the initial *j-* (*vъn* + *jemь*) became palatalized in this cluster, absorbing *j*: OCS *vъ njemь*. After its palatalization *n* could no longer be grasped as a part of the preposition. Thus, retention of *n* > *n'* in the third person pronouns originally was motivated phonetically.

8. s- mobile. In a consideralbe number of roots Sl has no initial *s* whereas in all or some other IE languages *s-* occurs. In a few roots fluctuations are found in Sl itself. In some roots, these are limited to Sl, in other roots they are also known outside Sl. In one root Sl has *s-* while fluctuations are found in other IE languages. No cases are known with *s-* in Sl only. Sl at large is rather prone to forms without *s-*, although *s*-forms are by no means exceptional. Of 25 roots examined (a cautious approach), Sl lacks *s-* in 16 and shows fluctuations in 6; of the remaining 3 cases with *s-* two are shared with Germ and/or Balt, in contrast to other IE languages.

These data show the intricacy of the problem. In its entirety the problem is IE, impossible to solve within Sl alone. In certain cases, however, a tentative solution may be found in the framework of Sl. The relevant material follows:

a) No *s-* in Sl; in all other IE languages *s*-forms are represented:

R *perét'* 'press, force', Br *pérci*, U *pérty*, P *przeć*, Sk (*za*)*priet' sa* 'set against', Cz (*za*)*přiti* 'bar', Sn (*za*)*pręti*, SC (*zà*)*preti*, M (*za*)*pira* 'hinder', Bg (*zá*)*pra* – vs. Li *spìrti* 'press', OI *sphuráti* 'jerk, quiver', Av *sparaiti* 'tread, push', La *spernō* 'push back', ON *sporna* 'kick';

U *prjážyty* 'fry, burn', Br *préhčy*, P *prażyć*, LS *pšažyś*, US *pražić*, Sk *pražit'*, Cz *pražiti*, Sn *prážiti*, SC *pȑziti*, M *prži*, Bg *pə́rža* – vs. Li *spragéti* 'crackle', Le *sprâgt* 'burst', OI *sphū́rjati* 'hum', Av *sparəya-* 'sprout', Gr σφαραγέομαι 'crackle', Norw *spraka* 'crack';

OCS (*u*)*vędati* 'fade', R *vjánut'*, Br *vjánuc'*, U *vjánuty*, P *więdnąć*, US *wjadnyć*, Sk *vädnut'*, Cz *vadnouti*, Sn *véniti*, SC *vénuti*, M *vene*, Bg *véxna* – vs. OHG *swintan* 'recede, fade'.

The same type of correspondence is found (without citing all Sl languages) in OCS *prǫgъ* 'grashopper, locust' vs. MLG *spranke*; R *prýgat'* 'leap' vs. Li *sprùgti* 'run away', Le *spruga* 'clamp'; R *prýtkij* 'prompt' vs. Li *spráusti* 'push', Le *spraûtiês* 'burst forth', Go *sprautō* 'fast'; R *kidát'* 'throw' vs. Li *skudrùs* 'agile', OI *skúndate* 'hurry up', ON *skióta* 'sling'; R *cep* 'handflail' vs. Gr σκίπων 'stick', La *scīpio*, possibly Go *skip*; R *prjast'* 'spin' vs. Li *sprę́sti* 'stretch', AS *sprindel* 'springe'; R *prjádat'* 'hop' vs. ON *spretta* 'leap'; R *pol* 'floor' vs. Le *spals* 'haft', Gr σφέλας 'footstool', ON *spjald* 'board' (but also OI *phálakam* 'board', ON *fjǫl*, without *s-*).

b) Sl has fluctuations although forms without *s*- prevail; other IE languages have forms with *s*-:

R *čirej* 'furuncle', U *čyrják*, Sn *čîr* but also *ščírjevec* 'abscess', SC *čîr*, M *čir* 'ulcer', Bg *čírka* 'furuncle' – vs. Gr σκίρρος 'hardening';

OCS *krilo* 'wing', R, Br, U *kryló*, OP *krzydło*, LS *kśidło*, US *křidło*, Pb *kráidlə* (kreidele), Sk *krídlo*, Cz *křídlo*, Sn, SC, M, Bg *krílo*, but also P *skrzydło* – vs. Li *skríeti* 'fly, run', Le *skrìet* 'run', ON *skriða* 'go along', MoHG *schreiten* 'walk'.

Cf. also R *plíska* 'wagtail' vs. LS *spliska* as compared to R *pleskát'* 'splash', Li *pleškė́ti* 'pop', with no *s*-forms outside of Sl.

One may assume that at least part of the words cited under (a) and (b) lost *s*- in CS because *s*, under the conditions of *sandhī*, was reassigned to the ending of a preceding word, and (because gemination was not admitted in CS) was eventually dropped. Doubts may arise about words not attested anywhere else besides Sl and Germ because of the Germ tendency to have *s*-. In such cases it is equally plausible that Sl could have preserved the original status whereas Germ innovated.

c) *s*- is represented in Germ alone while Sl and the rest of the IE languages have forms without *s*-:

OCS *malъ* 'small', R *mályj*, Br *malý*, U *malýj*, P *mały*, LS, US *małki*, Sk, Cz *malý*, Sn *mâli*, SC *mào*, M *mal*, Bg *málək* – Gr μῆλον 'small cattle', La *malus* 'bad', OIr *míl* 'animal', but Go *smals* 'small';

OCS *ključь* 'key', R, Br, U *ključ*, P *klucz*, LS *kluc*, US *kluč*, Sk *kl'uč*, Cz *klíč*, Sn *kljúč*, SC *kljûč*, M, Bg *kluč* – Li *kliúti* 'hook', Gr κλῃίς, La *clāvis*, Ir *cló* 'nail', but **skl*- in OHG *sliozan* 'close', *sluzzil* 'key'.

d) Sl has forms without *s*-, and so does IE except Germ, whereas Balt fluctuates:

R *čérep* 'skull', Br *čérap*, U *čérep* 'crock', P *trzop*, LS *crjop*, US *črjop*, Sk *črep*, Cz *střep* (with secondary *s*-), Sn *črệp*, SC *crêp* 'tile', M *crep*, Bg *čírep* 'crock' – OI *karparas* 'crock', Arm *karap'n*, but ON *skarfr* 'stump', MLG *scharf* 'crock', while in Balt OPr *kerpetis* 'skull' is at variance with Le *šķẽrpele* 'chip'.

In this type of development it is plausible that Sl continues the IE status while the Germ innovation partially spread to Balt.

e) Sl and Balt have forms without *s*-, other IE languages have *s*-:

R *néžnyj* 'tender', U *nížnyj*, Cz *něha* 'languor', SC *nȅga* 'care' – Le *naigât* 'long for', but OI *snihyati* 'get damp', *snēhas* 'fat, smoothness'. In this instance, a Sl innovation is attested by the presence of the same root in Sl in its older form, with *s*-: OCS *sněgъ* 'snow', etc.

f) Both Sl and other IE languages have both forms, viz. with and without *s*-:

R, U, Bg *korá* 'rind', Br *kará*, P *kora*, Sk *kôra*, Cz *kůra*, Sn *kóra*, SC *kȍra*, M *kora*, in agreement with Li *karnà* 'bast', OI *cárman* 'skin, fell', Av *čarəman*-, La *corium*, ON *hǫrundr*, while OR *skora* 'skin', Br *skúra*, U dial *skír(k)a*, P, LS *skóra*, US, Cz *skora*, Sn *skóra* are in agreement with Li *skarà* 'rag', Le *skara* 'curly wool', La *scortum* 'fell', AS *scearn* 'part';

OCS *pěna* 'foam', R, Br *péna*, U *pína*, P *piana*, Sk, M *pena*, Cz *pěna*, Sn *pẹ́na*, SC *pȅna*, Bg *pjána* in agreement with OI *phénas* 'foam', La *pūmex* 'pumice', OHG *feim* 'foam' – vs. SC dial (Dalm) *spjȅna*, in agreement with Li *spáinė* 'froth', OPr *spoayno*, La *spūma*;

Cf. also OCS *stьlati* 'spread' in its relation to *tьlo* 'ground', the former in agreement with Le *slāt* 'load', Gr στέλλω 'make ready', La *lātus* 'broad' (< **stl*-), the latter in agreement with Li *tìlės* 'floor boards of a boat', OPr *talus* 'floor', OI *talam* 'flat', La *tellus* 'earth'; and also OCS *klati* 'prick, hew' vs. R *skalá* 'cliff', with both forms of the root widely represented in other IE languages.

g) Sl, Balt, and Germ or Sl and Germ have *s*-, the rest of the IE languages do not:

OCS *slabъ* 'weak', R *slábyj*, Br *sláby*, U *slabýj* 'sick', P, LS, US *słaby*, Cz *slabý*, Sn *slàb*, SC *slȃb*, M, Bg *slab* – Li *slõbti* 'weaken', Le *slãbt* 'slacken', OHG *slaf* 'slack', but La *lābor* 'slip';

R, Br, Cz, Sn, Bg *slíva*, 'plum', U *slýva*, P *śliwa*, LS *sliwa*, US *słowka*, Pb *slaivəné*

(sleiwenė), Sk, M *sliva*, SC *slȉva* – OHG *slêha* ~ *slêwa* 'sloe-tree', vs. La *līveō* 'be blue'.

h) Sl has *s*- whereas the rest of IE fluctuates:

R, Sk, Cz, Bg *ston* 'moaning', in agreement with OI *abhi-ṣṭanás* 'din', Gr στονός 'moaning' vs. OI *tányati* 'tone', La *tonō* 'thunder', AS *þunian*.

Cf. also ChSl *štenę* 'puppy' like Arm *skund* vs. Ir *cano* 'wolf's cub', etc.

The types (f), (g), and (h) cannot find their explanation within Sl. They were inherited from IE. Inasmuch as Sl has fluctuations (type f), they were possibly supported by the development of *s*- mobile in Sl resulting from the loss of final -*s*, but they originate from pre-Sl IE.

In IE these vacillations do not have a convincing all-comprehensive explanation. *s*- mobile is considered as an unproductive prefix with a long forgotten function; as an affective device; as an optionally used word initial consonant which arose from occasional assimilations and dissimilations; as a result of the confusion of initial *sb'*, *sd'*-, *sg'*- with *sp*-, *st*-, *sk*- in all IE languages except Indo-Irn and Gr; as a reflex of certain laryngeals. None of these factors is excluded, but any collective explanation would hardly be applicable. Different roots developed (or dropped) *s*- for various reasons and inasmuch as an explanation is possible it should be given separately for each individual case. It is characteristic that *s*- mobile can occur before *p*, *t*, *k*, *n*, *m*, *l*, i. e. before all consonants with which *s*- normally could form clusters, but it never appears before vowels. This fact points out that whatever the origin of *s*- mobile it owed its use in the time after disintegration of IE to the changeability of consonantal groups on word boundaries.

As for the striking difference between Sl and Germ, the former reducing the usage of *s*- mobile, the latter expanding it more than any other IE language, it is probably due to the fact that Sl abandoned geminated consonants while Germ retained them, and to the difference in syllable boundaries, running after vowels in Sl but not necessarily so in Germ. When -*s* of the preceding word was followed by an initial *s*- (+ other consonant or consonants) in Sl -*s* + *s*- > -*s̄*- > *s* which thus could have been assigned to the following word.

In the words R *ten'* 'shadow' vs. OCS *stěnь* there is no *s*- mobile: *stěnь* is a blending of *ten'* (< **temnь*, cf. R *temnó* 'dark)' and *sěnь* (OCS), cognate of Go *skeinan* 'shine', Gr σκιᾱ́ 'shadow'.

9. Problem of *k*- mobile. Differences in the IE languages pertaining to the presence or absence of initial *k*, similar to those with *s*- mobile, exist but in many fewer cases.

Sl has traces of *k*- mobile in the following cases:

OCS *koza* 'goat', R, U, Bg *kozá*, Br *kazá*, P, LS, US, Sk, Cz, M *koza*, Sn *kóza*, SC *kòza*, in accord with Germ: Go *hakuls* 'coat', ON *hǫkull*, OEng *hæcen* 'kid'; cf. also Alb *kedh* ~ *kec* 'kid', while elsewhere the forms without *k*- occur: Li *ožỹs* 'goat', OI *ajā́*, MPers *azak*;

OCS *kostь* 'bone', R, Sk *kost'*, Br *kosc'*, U *kistka*, P *kość*, LS, US *kosć*, Cz, Bg *kost*, Sn, SC *kôst*, M *koska*, in agreement with La *costa* 'rib', while elsewhere the forms without *k*- occur: OI *ásthi* 'leg, bone', Av *ast(i)*-, Gr ὀστέον, La *ōs*.

Sl has both forms, with and without *k*- in OCS *črьmьnъ* 'red', Sn *čȓm* 'carbuncle' in agreement with Li *kirmìs* 'worm', OPr *girmis* 'maggot', OI *kṛmí*- 'worm', Ir *cruim*, Cym *pryf* vs. MBg *vermie* 'maggots', U dial *vermjanyj* 'red' in agreement with La *vermis* 'worm', Go *waurms*, Gr (Beot) Ϝάρμιχος, personal name, from IE **k^{w}ṛmis* ~ *u̯ṛmis*.

Sl has forms without *k*- in R, Br, U, P, LS, US, Sk, Cz, M, Bg *rak* 'crawfish, cancer', Sn *ràk*, SC *rȃk* vs. OI *karkatas* 'crawfish; cancer', *karkaras* 'rough', Gr καρκίνος 'crawfish', La *cancer* (< **carcro*-), Cym *crach* 'crust', from IE **k^{w}rak^{w}*-;

U *sipaty* 'pull, jerk', P *siepać* vs. OI *kṣipáti* 'throw'.

The rise or fall of this initial *k*- is not an intrinsic Sl development. These are

but petrified instances of a procedure which seems to have had limited productivity in late IE. Although fairly unclear in its details, it probably leads to the change of an initial laryngeal into *k-* when in contact with another final laryngeal or final *s* of the preceding word. A laryngeal is supposedly attested for the root of *kostь* by Hi *ḫastai*. In other IE languages this laryngeal yielded *k* also in contact with *s*, but a following one, as La *audāx* 'courageous'; numerous Balt examples of "inserted" *k*, sometimes shifting from the position before *s* (*š*) to that after it and vice versa, could also have first arisen in this way, cf. Li *réikšti* 'express': *reiškùs* 'significant' (related to Sl (OCS) *rěsnъ*), Le dial (Selsan, Sesswegen, etc.) *jùks* vs. Le standard *jùs* 'you', etc.

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16. DEVELOPMENT OF PROTHETIC CONSONANTS

1. General statement. 2. Initial *ŭ*. 3. Initial *ĭ*. 4. Prothetic consonants before $_e$*ă*-. 5. Prothetic *j* before $_o$*ă*-. 6. Problem of prothetic *v* before $_o$*ă*-. 7. Elimination of hiatus on morpheme boundaries. 8. Summary and outlook.

1. CS prothetic consonants developed before most initial vowels. In this function two consonants (resonants) were used: *j* (*i̯*) and *v* (*u̯*, *w*). The choice of the resonant was determined by the nature of the initial vowel in the word and very rarely also by the character of the final vowel of the preceding word. Initial front vowels had a tendency to take prothetic *j*, initial non-front vowels, *v*. For example, words beginning in *ĭ* took a prothetic *j*, words beginning in *ŭ* took a prothetic *v* irrespectively of the preceding word:

ĭ-, *ŭ*-> *jĭ*-, *vŭ*-

so that all initial *ĭ* and *ŭ* were eliminated.

With the vowels whose articulatory proximity to *j* and *v* resp. was not so great, i.e. $_e$*ă* and $_o$*ă*, the evidence at first glance appears contradictory. Several chronological layers must be assumed in the rise of prothesis.

2. Initial *ŭ*. With initial *ŭ* the use of prothetic *v* became mandatory. This was a Common Slavic innovation and is well represented in all recorded Sl languages. To comprehend the examples one must bear in mind that in the attested Sl languages *ŭ* is represented by ъ and its reflexes, *ū* is represented by *y* and its reflexes:

CS **ŭn* 'in', after the loss of final -*n*, **ŭ* > **vŭ* (OCS *vъ*, R, Br, U, Sk, Cz, M, Bg *v*, P *w*, SC *u*), originally zero grade to **on*, represented in most IE languages by *e*-grade: Li *į*, Le *ie*-, OPr *en*, Gr ἐν, La *in*, Ir *in*-, Go *in*;

CS **ŭx*- > **vŭx*- 'louse' (R *voš*', Br *voš*, U *vóša*, P *wesz*, LS *weš*, US *woš*, Sk *voš*, Cz *veš*, SC *vȃš*, M *voška*, Bg *vǝ̀ška*) as compared to Li *usnìs* 'thistle', Le *usna*;

CS **ŭz* 'up' > **vŭz* (OCS *vъz*-, R, Sk, Cz, Sn *vz*-, P *wz*-, Pb *vǝz*-, SC *uz*-, Bg *v*(ǝ)*z*- as compared to Li *už*- 'up', Le *uz*-, Arm *z*-;

CS **ŭrk*- > **vŭrk*- (R *vorčát*' 'grumble', P *warczeć* 'grunt', Cz *vrkati* 'coo', SC *vȓčati* 'grumble') as compared to Li *ur̃kti* 'grunt', La *urcāre* 'sound of lynx';

CS **ū*- > **vū*- (OCS *vyti* 'howl', R, Sk *vyt*', Br *vyc*', U *výty*, P *wyć*, LS *wuś*, US *wuć*, Cz *výti*, Sn *víti*, SC (*za*)*vijati*, M *vie*, Bg *vija*) as compared to OI *ūtíṣ* 'shout', OHG *ûwila* 'owl';

CS **ūps*- > *vūs*- (OCS *vysokъ* 'high', R *vysókij*, Br *vysóki*, U *vysókyj*, P *wysoki*, Pb *vǫ́i̯sǝk* (wóyssik), LS, US *wusoki*, Sk, Cz *vysoký*, Sn *visòk*, SC *vìsok*, M *visok*, Bg *visók*) as compared to Gr ὑφηλός 'high', OHG *ûf* 'up', Ir *ós* (< **oupso*-);

Bg river-names *Vit*, *Vidima*, SC *Vitornica* from Thra **ud*- ~ **ut*- 'water' (In Bg and SC *y* > *i*); Br river-name *Vop* (< *Vъpь*), from Li *ùpė* 'river'.

Cf. also R *výdra* 'otter' as compared to Li *ùdra*, R *výmja* 'udder' – OI *ū́dhar*; R *vy*- 'out' (prefix) from Go *ūt* 'out', etc.

A special development might be represented by Sn *ùš* 'louse' as opposed to R *voš'*, etc. (the Sl forms cited above), Sk *upet'* 'lament', Cz *úpěti* as opposed to OCS *vъpiti*. These individual developments of CS *vŭ-*, with original initial *ŭ* (Cf. for the second root Li *ùpas* 'echo') and a prothetic labial consonant, were based on the fact that when later *ŭ* > *ъ* (See 29,1), *ŭ* was retained dialectally in this position because it absorbed the prothetic consonant [w]. A parallel development of *jĭ-* was much more widespread in Sl and became normal for many dialects (See 16,3). On the contrary, *vŭ-* > *u-* did not extend beyond a few words in limited areas. Either it was never the regular development or else the *vъ*-forms (of the type *vъšь, vъpiti*) prevailed and crowded out the *u*-forms leaving only a few traces of that hampered development. The reason for the limited character of this phenomenon is to be sought in the loss of sonantic status of *v-*, after its change from bilabial to labiodental articulation.

Chronologically the spread of prothetic *v-* could be placed in the period following the loss of final consonants and be considered a result of the tendency to eliminate hiatus between the final vowel of the preceding word and the initial *ŭ* of the following word. This assumption, however, is not binding: there is not the slightest hint that this consonant was conditioned by the preceding vowel. Hence, *v-* could have developed independently of hiatus. Its relative chronology is established by the fact that it characterized *ŭ-* inherited from IE which later became *ъ*, *y* in CS; but it did not affect the new CS *u* which developed from *ₒau*. Thus, prothetic *v* developed before the delabialization of *ŭ* and the monophthongization of *u*-diphthongs. On the other hand, it appeared after Sl-Go contacts. Go *aúrtigards* 'garden' borrowed by CS as **urtigard-* became OCS *vrьtogradъ*, with prothetic *v-*. Rm shows no prothetic *v* before *u-*, preserving in principle La distribution, cf. *ud* 'damp' < La *ūdum* vs. *vulpe* 'fox' < La *vulpem*. It may be posited that in CS, development of prothetic *v* before *ŭ-* most probably occurred between the first and fifth century A.D.

3. Initial *ĭ*. The prothetic consonant used with *ĭ*-was *j*. Evidence of the attested Sl languages is not as uniform as in the case of *v* + *ŭ-*. Nevertheless, it is sufficient to assume that in CS *j* became obligatory before *ĭ-*.

Prothetic *j* is directly preserved in Pb, US, and Cz, cf. Pb *jǻimą* (geimang) 'name' < *jĭme*N, Cz *jméno*; Pb *jémə* (gimme) 'take' (3 sg) < **jĭme-*, US *jimać*, Cz *jímati* 'catch'; Pb *jăkră* (gôakra) 'spawn' < **jĭkra*, US *jikro*, Cz *jikra*, etc. Unambiguous traces of prothetic *j* before *i-* are found in OLS *jimaś* 'catch', *jimje* 'name', etc.

In the other Sl languages *i-* occurs without prothetic *j*, e.g.:

Cz *jíl* 'silt', but R, Sk, Bg *il*, P *il*, Sn *íl*, SC *ȉlovača* 'clay', cognates of Le *īls* 'pitch dark', Gr ἰλύς 'silt';

Pb *jăskră* (goáskra) 'spark', Cz *jiskra*, but R, Br, U, Sn, Bg *ískra*, P, Sk *iskra*, LS, US *škra*, SC *ȉskra*, cognates of Li *iškùs* 'clear'.

However, this is a later redistribution. For *ĭ-* at least the CS character of prothetic *j* is evident from the following considerations:

a) The same distribution is found in those words of the Mo Sl languages which

originally had a root-initial *j*, e.g. CS **jigo-* 'yoke', cognate of OI *yugā́m*, Gr ζυγόν, La *iūgum*, OCym *iou*, Go *juk*, Hi *jugan*, also Li *jùngas*. In Sl this *j-* is found only in Pb *jaid'ǔ* (geidigi) 'yoke', Cz *jho* vs. OCS, P *igo*, R, Bg *ígo*, Sn *igô*. This is to say that in all the Sl languages except Pb, Cz (and US) initial *j* before *i* was lost.

b) This loss was prevented if *i* changed into another vowel. In such instances *j-* has been preserved showing that it was present in CS. An example of this type is OCS *językъ* 'tongue', R, Br, U *jazýk*, P *język*, Pb *jǫ̂zәk* (jungsick), LS *jězyk*, US, Sk, Cz *jazyk*, Sn *jézik*, SC *jèzik*, M *jazik* (with the loss of *j-* in Bg alone: *ezík*). This word goes back to IE **dn̥ǵ'ū* (IE correspondences cited in 5,4). In Sl and Balt *d-* was lost in the consonantal cluster, *n̥* > *in*, as in OPr *insuwis* 'tongue'. It is before this *i-* that *j* developed in CS. In its later development *jin-* > *ję-*, prior to the loss of *j-* before *i*, and owing to this change *j-* was retained.

Other examples of the same type are:
OCS *jęti* 'take', OR *jati*, cognates of Li *im̃ti* 'take', La *emō* 'purchase';
OCS *jęʒa* 'disease', R *jagá* 'witch', Br, U *jahá*, P *jędza*, Cz *jezinka* 'forest fairy', Sn *jéza* 'anger', SC *jéza* 'shudder', M *janʒa* 'sickness', cognates of Li *ìngis* 'idler', Le *îgt* 'cease, fade', AS *inca* 'question, doubt'.

c) The most important evidence favoring the presence of *j* before *ĭ-* is supplied by the peculiar development of *ĭ* in this position in most Sl languages. Generally *ĭ* changed into *ь* which is reflected in the MoSl languages as *e* or *a* (See 29,6), but after *j* this change was usually prevented so that *ĭ* was frozen. This is evident in R and SSl, e.g. R *igrá* 'play, game', Sn *ígra*, SC *ìgra*, M *igra*, Bg *igrá* (< **jĭgrₒā*, with **jĭ-* not followed by *ĭ* or *ŭ* in the next syllable, i.e. in the so-called weak position);

R, Bg *iglá* 'needle', Sn *ígla*, SC *ìgla* (< **jĭgŭlₒā*, i.e. in the so-called strong position), etc.

In WSl as well as in Br and U, the situation is more complicated. Along with *i-* <**jĭ-* two other reflexes are found: *j-* + ≠ or ≠ which, of course, go back to *jь-* in weak position. The data of individual languages partially diverge. The character of this divergence is discussed in 29,6. Irrespective of such problems, it is obvious that the number of examples with *i-* (*ji-*) in the languages involved is sufficient to conclude that at least in certain cases *ĭ* in the initial syllable did not develop like *ĭ* in other positions. This difference in treatment could only have been caused by the presence of *j-* which enabled preservation of *ĭ* and prevented its change into *ь*. Cf. the examples:

P *iskra* 'spark', *igla* 'needle', *istny* 'real', *inny* 'other', *ikrzak* 'spawning fish';
Pb *jáinem* (geinam) 'on the other side', *jaid'ǔ* 'yoke', *jáimą* 'name';
US *jimny* 'sensitive', *jikro* 'spawn', *jimać* 'grasp', OUS *jiny* 'other';
Sk *ihla* 'needle', *imelo* 'mistletoe', *imanie* 'property', *ikra* 'spawn', *iný* 'other', *iskra* 'spark', *istý* 'safe':
Cz *jiskra*, *jistý*, *jiný*, *jikra*, *jímati*.

Examples of this type, albeit treated somewhat differently in the languages involved, warrant the presence of *j-* before initial *ĭ* in CS. Examples with *j* + *ī-* are relatively rare and no direct proofs of CS prothetic *j* before *ī-* are available.

However, there are no contradictory facts; and logical considerations as well as the similarity in the distribution of *ji-* and *i*-forms reflecting both *ī* and *ĭ* (*ji*-forms in Cz and US, *i*-forms elsewhere) rather suggest no difference between *ĭ-* and *ī-* with regard to the occurrence of prothetic *j*.

Like *v* before *ŭ̄-*, prothetic *j* before *ĭ̄-* is not conditioned by the final vowel of the preceding word in a speech sequence; its choice and use are motivated only by the initial vowel of the word to which it is added. Therefore, in the case of *j-*, too, there are no indications that it arose in reaction to hiatus created by the loss of final consonants. Chronologically, this statement would infer that the development of prothetic *j* did not necessarily follow the loss of final consonants, but could have just as well developed prior to it. Nothing precludes the assumption of a parallel development of prothetic *j* before *ĭ̄-* and prothetic *v* before *ŭ̄-* occurring at the same time.

4. Prothetic consonants before ${}_{e}\breve{\bar{a}}$. Both short and long initial ${}_{e}a$ took prothetic *j* in CS. Examples are fairly numerous and encompass ${}_{e}a$ as a monophthong as well as the first component of diphthongs.

Short ${}_{e}a$ is represented by the following examples:

OCS *estъ* 'is', R *est'* [jes't'], Br *ësc'* [jos'c'], U *je*, P *jest*, Pb *ją* (jang), LS *jo*, US, Sk, Cz *je*, Sn *jè*, SC *jȅ(st)* as compared to OLi *ẽsti*, OI *ásti*, Av *asti*, Gr ἔστι, La *est*, Go *ist*. M and Bg *e* show secondary loss of iotation;

R *ëž* 'hedgehog', U *jižák*, P *jeż*, LS *jež*, US *jěž*, Sk, Cz *jež*, Sn *jéž*, SC *jêž* as compared to Li *ežỹs*, Le *ezis*, Arm *ozni*, Gr. ἐχῖνος, OHG *igil*. No iotation in M and Bg *ež*;

R *el'* [jel'] 'fir', Br *jalína*, U *jalýna*, P *jodła*, LS *jedla*, US *jědla*, Sk *jedl'a*, Cz *jedle*, Sn *jẹ̑l*, SC *jéla* as compared to Li *ẽglė*, Le *egle*, OPr *addle*, La *ebulus* 'elder'. In M *elka* and Bg *elá* iotation is secondarily lost.

Other examples: OCS *jezero* 'lake', *(j)edinъ* 'one', *(j)elenь* 'deer', P *jesień* 'autumn'[1], etc.

In diphthonges:

*${}_{e}a$N: OCS *(j)ęčьnenъ* 'of barley', R, Br *jačmén'* 'barley', U *jačmín'*, P *jęczmień* Pb *jącmín* (gangsmîn), LS *jacmjeń*, US *ječmjeń*, Sk *jačmeň*, Cz *ječmen*, Sn *jéčmen*, SC *jȅčmēn*, M *jačmen* as compared to Li *ánka* 'loop', OI *aŋkás* 'hook', Gr ὄγκος 'barbed hook', La *uncus* 'hook'. Bg *ečmík* 'barley' has secondarily lost *j-*;

R, Br, U *jadró* 'kernel', P *jądro*, Pb *jǫ́drə* (gundre), LS *jědro*, US, Sk *jadro*, Cz *jádro*, Sn *jédro* as compared to OI *aṇḍás* 'egg';

*${}_{e}ai$: Since in its later development ${}_{e}ai$ > *i* and *i-* of any origin subsequently lost prothetic *j* in most Sl languages (except Cz and partly Pb and US), as shown in section 3, the forms with *j-* in these languages would secure CS *j-*. Cf. Cz *jíti* 'go', LS *hyś*, US *hić*, with *h-* replacing *j-*, cognates of Li *eĩti* 'go', Le *eimu* (1 sg), OPr *ēit* (3 sg), OI *éti*, Gr. εἶμι.

Examples for long ${}_{e}a$ are:

OCS *jasti*[2] 'eat', R *est'* [jes't'], Br *ésci* [jés'c'i], U *jísty*, P *jeść*, Pb *jest* (gêst), LS, US *jěsć*, Sk *jest'*, Cz *jísti*, Sn *jẹ́sti*, SC *jȅsti*, M *jade*, Bg *jam* as compared to Li *ė́sti* 'eat', Le *êst*, OPr *īst*, OI *átti*, Gr ἔδω, La *edō*, Go *itan*. The prothetic nature of *j-*

[1] R, Br, and U forms with *o-*, of the type R *ózero*, *odín*, *olén'*, *ósen'*, etc., as well as Br *vóžyk* 'hedgehog' vs. R *ëž*, etc., have a secondary *o-* acompanied by a secondary loss of *j-*. See 28,3.

[2] On the fluctuations *e* ~ *a* in these examples, see 11,9.

in Sl is also evident from the lack of *j* in old prefixed forms, cf. OCS *obědъ* 'breakfast', R *obéd* 'dinner', P *obiad*, Sk *obed*, Cz *oběd*, Sn *obèd*, SC *òbed*, Bg *óbed*, etc.;

OCS *jadra* 'bosom', OR *jadro*, Sn *jádro* 'dewlap' as compared to Gr ἦτορ 'heart', OHG *âdara* 'vein', Ir *in-athar* 'intestines'. Nor does this root, in combination with preceding *n*, palatalize the latter: OCS (*vъ*) *nědra* 'bosom', SC *nȅdra* 'womb' (On *n*- see also 16,7);

OCS (*j*)*azъ* 'I', R, Br, U, P, LS, US, Sk *ja*, Pb *joz* (jose), Cz *já*, Sn *jàz*, SC *jâ*, M *jas*, Bg *az* as compared to OLi *eš*, Le *es*, OPr *es*, OI *ahám*, Av *azəm*, Arm *es*, Gr ἐγώ, La *ego*, Go *ik*.

Prothetic *j* asserted itself in all words beginning in *ĕă* and occurring in the middle of an utterance. The only apparent exception, with prothetic *v* instead of *j*, OCS *vęzati* 'tie', R *vjazát'*, Br *vjazác'*, U *vjazáty*, P *wiązać*, Pb *vǫ́zət* (vyûng-sat), LS *wjezaś*, US *wjazać*, Sk *viazat'*, Cz *vázati*, Sn, SC *vézati*, M *veze* 'embroider', Bg *véža*, cognate of Gr ἄγχω 'lace', La *angō* 'tighten' has its *v*- either from the words which had the same root in *o*-grade (as represented by OCS *ǫza* 'bond, tie', *ǫzъkъ* 'narrow', and particularly *sъvǫzъ* 'bond', Cz *příbuzný* 'related' < **pri-vǫz*-[3]), or from some blending, possibly with (OCS) (*po*)*vrěsti* : -*vrъzǫ* 'tie'.

On the other hand, the particle *e* which was typically used in sentence- or clause-initial position did not take any CS prothesis, as seen from OCS *ese* 'lo', R *è-tot* 'this', Br *hètyj*, U *hen* 'there', P *hen*, Cz *hen*, Sn dial *ezde* 'here', SC *ȇ* 'well', M *eve* 'lo', Bg *e*; nor did any prothesis develop in the interjection OCS *ei*. In diphthongs this applies to *i* 'and' as cognate of Gr εἶ 'so', Go *ei* 'and'. This conjunction does not have prothetic *j* even in those languages which preserved it before *i*-: Cz *i*. The inference to be drawn from these facts is that prothetic *j* before *ea*, in contradistinction to prothetic consonants before *i* and *u*, originally arose only in the middle of speech utterances, i.e. under the conditions of hiatus. Choice of the prothetic consonant was motivated by the character of the following vowel: the front on-glide of *ea* required the palatal prothetic consonant. But the reason for the rise of prothesis as a phenomenon is to be found in *sandhī* conditions, i.e. in speech units longer than a word.

For chronology, this distinction means that prothetic *j* before *ea*- should have arisen after the loss of word-final consonants. It was only then that hiatus became widespread in CS. Thus, prothetic *j* before *ea*- did not develop simultaneously with the prothetic consonants before *i*- and *u*-. It may be assumed that the rise of prothetic *j* before *ea*- constituted the second chronological layer in the development of CS prothetic consonants.

This assumption is also confirmed by the fact that CS shared the development of prothetic *j* before *ea*- with Rm, not the case for *i*- and *u*-. This is reflected in Rm spelling in such cases as *iápă* 'mare' < La *equam*, *iéri* 'yesterday' < La *herī* (*h*- was lost in VLa); in cases such as *e* 'is', *éra* 'was', the spelling does not correspond to the pronunciation which is [je], [jéra]. The rise of prothetic *j* is motivated by the internal development of Rm. As in Sl, it was a chain reaction to the loss of word final-consonants and the spread of hiatus. However this

[3] If R *pajus* (MR 'bag', now in the expression *pájusnaja ikrá* 'pressed caviar') has the same root it shows that there was a prothetic *j*- used with this root.

does not contradict the assumption of a development common to both Rm and Sl.

Thus, the Sl development of prothetic *j* before $_e$*a*- may be referred to a time about the sixth century. This date also agrees with the status of CS at that time. As shown above, the development was the same both before $_e$*a*- as a monophthong and as the first component of a diphthong. In further monophthongization (See 19,1 and 20,1), $_e$*a*-diphthongs partly changed their quality. These differences did not leave any imprint on the presence or choice of prothesis. One has to assume that $_e$*a*- took prothetic *j* before the monophthongization of $_e$*a*-diphthongs. This again suggests approximately the sixth century.

5. Prothetic *j* before $_o$*ă*. Logically, one might expect prothetic *v* before $_o$*a*-, based on the proportion

$$j + i\text{-}: v + u\text{-} = j + {}_e a\text{-}: \text{x} : {}_o a\text{-}$$

where x = *v*. There are actually a few facts indicating such a treatment but they are rather exceptional (See section 6). The main body of evidence shows that in certain cases Sl had prothetic *j* before $_o$*a*-, in other cases had no prothesis at all. The distribution depends on the quantity of $_o$*a* and on whether it was monophthongal or a part of a diphthong. In general, the rule was that *j*- developed before monophthongal $_o$*ā*- but not before $_o$*ă*-, nor before $_o$*a*- as first component of diphthongs (where it also was short). The $_o$*ai*-diphthongs show initial *j* but it was not prothetic.

Thus, it may be inferred that *j*-prothesis before $_o$*a*- developed after the monophthongization of diphthongs and possibly when the split of $_o$*ă* into *ŏ* and *ā* began (See 26, 7 and 9), i.e. much later that the *j*-prothesis before $_e$*a*-, at the very end of the existence of CS and continuing into the histories of the individual Sl languages. This is the third and final stratum in the rise of prehistorical Sl prothesis.

There are direct confirmations of this chronology, viz. late borrowings from other languages, which acquired prothetic *j* in Sl:

R, Bg *jávor* 'maple', Br *jávar*, U *jávir*, P, LS, US *jawor*, Pb *jovărə* (johwahraa, nom pl), Sk, Cz, M *javor*, Sn *jávor*, SC *jävor* – from OHG *ahorn*; Gr place-names of Sl origin with this root reflect the old forms without *j*-: "Αβορος (Doris), 'Αβαρῖνος (Messenia);

OR *jakorь* 'anchor' – from OSw *ankari*;

OR *Jakunъ*, personal name – from OSw *Hákon*.

a) Examples of prothetic *j* before $_o$*ā*- are not rare:

R, U *jálovyj* 'barren', Br *jálavy*, P, LS, US *jalowy*, Pb *jolŭvă* (góliwa, fem), Sk, Cz *jalový*, Sn, Bg *jálov*, SC *jälov*, M *jalov* as compared to Li *ālava* 'dry cow';

OCS *jarьmъ* 'yoke', R, Br, U *jarmó*, P *jarzmo*, Sk *jarmo*, Cz *jařmo*, Sn *járem*, SC *járam*, Bg *jarém* as compared to OI *arpáyati* 'fix', Gr ἅρμενος 'fastened', La *arma* 'shanks';

R, Br *jásen'*, U, Bg *jásen*, P *jasień*, Pb *josín* (gôssîn), LS, US *jaseń*, Sk, Cz *jasen*, Sn *jásen*, SC *jäsān* as compared to Li *úosis*, Le *uôsis*, OPr *woasis*, La *ornus* (< **osenos*).

Further examples; OR *jazьno* 'leather' vs. OI *ajínam* 'fell', R *jábloko* 'apple' vs. Li *óbuolas*, *jagnёnok* 'lamb' vs. La *agnus*, *jágoda* 'berry' vs. Li *úoga*, *jajcó* 'egg' vs. Gr ᾠόν, *jaz'* 'ide' vs. Li *ožỹs* 'goat', *javít'* 'show' vs. Av *āviš* 'obviously', etc.

In OCS many of these words occur without *j*- or vacillate. It is not necessary to explain all the forms without *j*- as local (Bg) reversals. These forms can to a certain extent preserve the late CS situation.

In no Sl language does the conjunction *a* 'and, yet' take prothetic *j*. Obviously, prothetic *j* before *a*- (ₒ*ā*) developed only under conditions of hiatus.

b) No *j*- occurs, as stated above, before short ₒ*ă*-, e.g:

Cz (Morav) *oje* 'cart shaft', Sn *ojê*, SC *óje*, Bg *ojište* 'sharebeam' as compared to Gr οἴαξ 'rudder shaft', OI *īṣā* 'cart shaft'. Separate Sl languages in their further histories developed initial *v*: in U *vijjá* 'cart shaft' it is a regular concomitant of initial *o*- > *i*; in OP *wojnica*, LS *wojo* it is prothetic;

OCS *otьcь* 'father', R, Bg *otéc*, P *ojciec*, Sk, Cz *otec*, Sn *óče*, SC *òtac* as compared to Gr ἄττα 'father', Alb *at*, La, Go *atta*, Hi *atta*. In LS *wośc* 'ancestor', US *wótc* secondarily developed *v*-.

c) No *j*- occurs before ₒ*a*N-dipththongs, e.g.:

R *údka* 'fishing rod', Cz *udice*, Sn *ǫ́dica*, SC *ȕdica* as compared to Le *uodne* 'a board in a sledge', and with other grades of the root vowel Li *ìndas* 'vessel', Le *eñdas* 'sledge beam'; secondary prothetic consonants in Br *vúda* 'fishing rod', U *vúdka*, P *węda*, LS *huda* ~ *wuda*, US *wuda*, Bg *vǝ́dica*;

OCS *ǫtroba* 'womb', R *utróba*, Sk *útroba*, Cz *útroba* 'bowels', SC *ȕtrobica* 'liver' as compared to OI *antrám* 'bowels', Av *antara*-; secondary prothetic consonants in P *wątroba* 'liver', LS *hutšoba* ~ *wutšoba* 'heart', US *wutroba*, Sn *vǫ́troba* 'bowels'.

Further examples: R *už* 'grass snake' vs. OPr *angis* 'snake', RChSl *uxati* 'smell' vs. OI *ániti* 'breathe', R *úgol* 'corner' vs. La *angulus*, OCS *ǫzъkъ* 'narrow' vs. OI *amhúṣ*, R *úzel* 'knot' vs. Gr ἄγχω 'lace', etc.[4].

d) No *j*- occurs before ₒ*au*-diphthongs, e.g.:

R, Bg *úlej* 'beehive', P *ul*, Sk, Cz *úl*, Sn *úlj*, SC *úljevi* (pl) 'beebrood', M *uljarnik* 'beehive' as compared to Li *aulỹs* 'hive', Le *aũlis*, OPr *aulis* 'shinbone', Gr αὐλός 'pipe', La *alvus* (< **aulos*) 'hollow', Norw dial *aul* 'pipe'; secondary prothetic consonants in Br *vúlej*, U *vúlyk*, Pb *vaul*, LS *wul* ~ *hul*;

OCS *uxo* 'ear', R *úxo*, P, Sk, Cz *ucho*, Sn *uhộ*, SC *ȕho*, M *uvo*, Bg *uxó* as compared to Li *ausìs*, Le *àuss*, OPr *āusins* (acc pl), Av *uši* (du), Gr οὖς, Alb *veš*, La *auris*, Go *ausō*, Ir *ō*; secondary prothetic consonants in Br *vúxa*, U *vúxo*, Pb *vau̯xŭ* (wäuch), LS *wucho* ~ *hucho*, US *wucho*.

Cf. also OCS *učiti* 'teach' vs. Go *bi-ūhts* 'accustomed', *udъ* 'limb' vs. La *au*- (as in *auferō* 'carry away') + IE **dʽē*- 'put', SC *ȕjak* 'uncle' vs. OPr *avis* 'uncle', etc.

In a few words individual Sl languages have prothetic *j* before *u* < ₒ*au*-:

Bg *uzdá* ~ *juzdá* 'bridle' as compared with R *uzdá*, P, Sk, Cz *uzda*, Sn *úzda*, SC *ùzda* (secondary prothetic *v* or *h* in Br *vuzdéčka*, U *vuzdá*, Pb *váu̯zdă* (wausdə), LS *wuzda* ~ *huzda*, US *wuzda*) vs. OPr *austo* 'mouth', OI *ó̦ṣṭhas* 'lip', Av *aošta*-, La *ausculum* 'mouth' (+ **dʽē*- 'put').

To understand these cases it is necessary to examine words which had a root *j*- before ₒ*au*. Except R and Br and partly U which lost all initial *j* before *u* (Cf. late loan word R *Ul'jána*, U *Uljána* from Gr Ἰουλιανή, La *Jūliāna*), in Sl these words generally preserve their *j*-. Such words are (R and Br not cited, in which *ju*- occurs only in loan words from OCS or P):

[4] M *jazol* 'knot' has a secondary *j*- due to the change of *ǫ* into *a* and fluctuations in the use of prothetic *j* before *a*-.

OCS *junъ* 'young', P *juniec* 'bullock', Pb *jáųnəc* (gaunatz) 'young cattle', LS dial *junk* 'bullock', Sk *junák* 'chap', Cz *jinoch* 'youth', Sn *júnec* 'bullock', SC *júnac*, Bg *junéc* as compared to Li *jáunas* 'young', Le *jaũns*, OI *yúvan-*, Av *yuvan-*, La *iuvenis*, Go *juggs*;

U *júška* 'broth', P, LS, US, Sk *jucha*, Cz *jícha*, Sn, SC *júha*, M *jufka* 'type of noodle', Bg *juxá* as compared to Li *júšė* 'fishsoup', OPr *juse* 'broth', OI *yūs*' Gr ζῦμη 'leaven', La *iūs* 'broth';

U *júdyty* 'instigate', P *judzić*, Bg *júda* 'nymph' as compared to Li *jaudà* 'seduction', OI *ud-yōdhati* 'drive away mad', La *iubeō* 'command'.

Vacillations occur in two words possibly of the same root:

OCS *juže* ~ *uže* 'already', P *już*, LS *južo*, US *juž*, Cz *již*, SC dial *jȕr* vs. Sk *už*, Sn *užè* ~ *urè*, Bg *už*, cognates of Li *jaũ* 'already', Le *jàu*, OPr *jau*, Go *ju*;

OCS *jutro* ~ *utro* 'morning', P, US, Sk *jutro*, Pb *jaųtrŭ* (jautrí), LS *jutšo*, Cz *jitro*, Sn *jútro*, SC *jȕtro* vs. M *utre* 'tomorrow', Bg *útro* 'morning', cognates of Li *jaũ* 'already', etc., or possibly Li *jautrùs* 'vigilant'.

The possibility of losing *j-* in words originally beginning in *ju-* (*j*${}_{o}$*au-*) and of adding it to those originally beginning in *u-*(${}_{o}$*au-*) under the conditions of hiatus and the presence of a more or less optional prothetic *j*, existed in CS. Nevertheless, as shown by the data cited, the original distribution has been basically preserved, fluctuations being limited to the often toneless (OCS) *juže* ~ *uže* and to two words (*uzdá* and *jútro*) in M and Bg. This convincingly shows that ${}_{o}$*au-* did not have any *j*-prothesis in CS[5].

e) No prothetic *j* occurs in ${}_{o}$*ai*-diphthongs either, although in the attested Sl languages they begin in *j-*, e.g.:

OCS *jasnъ* 'clear', R *jásnyj*, Br *jásny*, U *jasnýj*, P, LS, US *jasny*, Sk, Cz *jasný*, Sn *jásen*, SC *jȁsan*, M, Bg *jásen* as compared to Li *áiškus* 'clear';

OCS *jazva* 'sore', R, Br *jázva*, P *jazwa* 'badger's hole', Sk *jazva* 'scar', Cz *jízva* 'wound', Sn *jâzba* 'burrow', SC *jȁzvina*, Bg *jázva* 'wound' as compared to Li *áiža* 'cleft', Le *aĩza*, OPr *eyswo* 'wound' (More examples in 11, 9).

As will be shown in 20, 1, the diphthong ${}_{o}$*ai* underwent metathesis to *i*${}_{o}$*a* > *i*${}_{e}$*a*; in word-initial position *i* + ${}_{e}$ merged into *i̯* (*j*) and this *j-* is found in the words in question. Thus, they have no prothesis in the proper sense and could not have it because after metathesis their root began in *j-*.

6. Problem of prothetic *v* before ${}_{o}\breve{a}$ .The distribution of prothetic *j* before ${}_{o}$*a-* as analyzed in section 5 showed that this was a phenomenon of very late, disintegrating CS when ${}_{o}$*a* spilt into various vowels according to its quantity and status as a monophthong or as the first component of a diphthong. This does not necessarily mean that prior to the development of prothetic *j*, ${}_{o}$*a-* had no prothesis at all. It is possible that it had had another prothesis but lost it at a later time. Theoretically, the expected prothetic consonant, in accordance with

[5] In light of this situation the etymology of OCS *jugъ* 'south', Sk *juh*, Cz *jih*, Sn *jùg* 'mild breeze', SC *jȕg* 'south wind', M, Bg *jug* 'south' as related to Gr αὐγή 'shine', Alb *agim* 'daybreak', uncertain in itself, must be considered as a failure. But cf. SC *jȕžina* 'thaw' vs. *ȕžina* 'lunch', Bg *úžina*, without *j-*. This etymology could be salvaged if Sl forms with *ju-* go back to IE *eu*-forms, *eu* giving in Sl *ju* (See section 4). However, the alternation *au* : *eu* is not a regular one.

the character of the on-glide of °*a* would be *v* [w]. If this is correct the following four stages are to be reconstructed:

a) °*a*-
b) **v*°*a*-
c) °*ā* > *ā*, °*ă* > *ŏ*. Correspondingly *v*°*ă*- > *ā*-/*ŏ*-
d) *a*- > *ja*-.

The loss of prothetic *v* (stage c) could have been connected with the delabialization of °*ā* (> *ā*) and the loss of its rounded on-glide. This restructuring of CS vowels also involved some prothetic consonants.

There are some indications in the attested Sl languages that the second (*v*°*a*-) stage of the posited development was not merely a theoretical construct but a reality. The evidence is twofold. On the one hand, there are a few words which still have *v*- before the reflexes of °*a*-; on the other hand, there are words in which *v*-, although etymologically justified and not prothetic, has been lost.

a) Sl has prothetic *v*- before reflexes of °*a*-. An indisputably CS case is OCS *vonja* 'smell', R *von'* 'stink', P, US *woń* 'smell', Sk *vôňa*, Cz *vůně*, Sn *vónja*, SC *vȍnja*, Bg *vonjá* 'stink', related to OI *anas* 'breath', Gr ἄνεμος 'breath, wind', La *animus* 'spirit', Go *us-anan* 'exhale'; cf. also in Sl (OCS) (*blago*)*ǫxanie* 'fragrance', with the same root but without *v*-. There is no certainty about U *vátra* 'bonfire', P *watra*, Sk, Cz *vatra*, SC *vȁtra*, Bg dial *vatrál* 'fire shovel'. The word has cognates in OI *átharvā* 'fire priest', Av *ātar*- 'fire', Arm *airem* 'burn', Ir *áith* 'stove', but ist geography leads rather to an assumption that it is not a CS word but a borrowing from the Balkan Peninsula. Cf Rm *vátră* 'hearth', Alb *vátër*.

Prothetic *v* is regionally limited in Sk *vajce* 'egg', Cz *vejce* (OCz *vajce*) as compared to Osset *aik* 'egg', Gr ᾠόν, La *ōvum*, OHG *ei*, OCornish *oy*. All other Sl languages have the expected (before *ā*) *j*-: R, Br *jajcó*, U *jajcé*, P *jaje*, Pb *ʾiojí* (gogî), LS *jajo*, US *jejo*, Sn, SC *jájce*, M *jajce*, Bg *jajcé*; OCS had *aice*. For instability of *v*- before °*a* > *o* cf. also R *Vólxov*, river-name, from Fi *Olhava*(*njoki*), SC *Vojuša*, river-name (Epirus), from Gr 'Αῶος, La *Aous*.

b) Instances of an original root *v*- lost in CS can testify to a stage in CS development when initial *v* tended to be suppressed in all words in which it was not supported by other, non-initial (i.e. prefixed) appearances of the same morpheme also having *v*:

CS *°*as*°*ā* as represented by R, U, Bg *osá* 'wasp', Br *asá*, P, Sk, Cz *osa*, Sn *ósa*, SC *ȍsa*[6] as compared to Li *vapsà* 'wasp', Le *vapsene*, OPr *wobse*, La *vespa*, OBret *guahi*, OHG *wafsa*. The loss of *v*- in this word is due to the fact that the word does not occur with prefixes;

the same is true of river-names such as P *Odra*, if related to *woda* 'water'; and possibly of RChSl *ǫsъ* 'moustache', R *us*, if cognates of Gr (ϝ)ῐ(ϝ)ονθος 'peach fuzz' (< **vi-vond'o*-), OHG *wint-brâwa* 'eyelash'.

The reasons for the loss of *v*- are not so clear in the case of SChSl *ǫditi* 'smoke', Cz *uditi*, Sn *voditi* ~ *odíti* 'cure (fish)' (P *wędzić* with secondary *w*-) in relation to OCS *u-vędati* 'wither', OHG *swintan* (with *s*- mobile, see 15, 8).

[6] Pb *våsă*, LS *wósa*, US *wosa* have a prothetic *v* arisen secondarily in these languages before any *o*-.

Other cases are typical of smaller areas and therefore it is uncertain whether they reflect CS facts:

U *horobéc'* 'sparrow' in relation to R *vorobéj*, Br *verabéj*, P *wróbel*, LS *robel*, US *wrobel*, Sk, Cz *vrabec*, Sn *vrábelj*, SC *vrábac*, M *vrabec*, Bg *vrabéc* may go back to dialectal form with lost *v-* which etymologically was a part of the root, cf. Gr (ϝ)ῥόβιλλος 'a bird', Li *žvìrblis* 'sparrow'; but rather it is due to U interplay of prothetic *v* and *h*;

R *ólux* 'blockhead' if dervied from **volux* 'neatherd', from *vol* 'ox', being a form which lost *v-*; however, the word may be of the same origin as Br *ëlup*, U *jólop* 'blockhead', of unclear provenanace, but not connected with *vol*.

Altogether, there are three safe examples and a few more which can more convincingly be explained differently. These data make the assumption that CS experienced a stage of *v*-prothesis before ₒ*a-* plausible. Chronologically, nothing precludes the possibility that it was simultaneous with the development of prothetic *j* before ₑ*a-*. It might also have been common with Rm, at least in the case of *o* (ₒ*ă*). Although not marked in spelling, Rm *om* 'man', *óră* 'hour', *ovắz* 'oats' going back to La *homo*, *hora*, Sl *ovьsъ*, are pronounced [wom, wórə, wovə́s].

The fact that the assumed prothetic *v* before ₒ*a-* disappeared almost entirely in Sl strongly suggests that it was not a full-fledged *v-* obligatory before every ₒ*a-*. It could have existed on a more limited basis hardly reconstructible from the few vestiges now available. It might have been an extra-phonemic on-glide of a weak *u̯* type; or perhaps this prothetic "*v*" was optional appearing mostly under certain conditions of hiatus. One thing is obvious: it could not have been a mandatory full-fledged *v*, otherwise it would either not disappear so completely or would, in its decline, involve all other *v-* before ₒ*a* > *ŏ*, *ā*, at least when not supported by the prefixed forms of the same word. Undoubtedly, this was not the case, cf. R *vodá* 'water', *vojná* 'war', *vólja* 'will' not having any forms without *v-* in any Sl language[7].

7. Elimination of hiatus on morpheme boundaries. Hiatus on the morpheme boundaries was treated diversely. If the morphological make-up of the word was lucid hiatus seems to have been retained. In cases as OCS *poučiti* 'teach', *naustiti* 'persuade' contractions or insertions were obviously precluded by the high frequency of both the prefixes *po-*, *na-* and the roots *uč-*, *ust-*.

[7] Rare cases in which a non-etymological *g-* is used in Sl like those in which a non-etymological *v-* occurs before front vowels (treated in section 4) are due to blendings. The initial consonant of these words is not prothetic. The words in question are: OCS *gǫsěnica* 'caterpillar', R *gúsenica*, U *husénycja*, P *gąsienica*, LS *gusеńca*, US *husańca*, Sk *húsenica*, Cz *housenice*, Sn *gosênica*, SC *gùsenica*, M *gasenica*, Bg *gəsénica* vs. Br. *vúsen'*, P *wąsienica*, Sn *vosênica*, Bg *vəsénica* (RChSl also *jusenica*). The word obtained its *g-* from *gǫsь* 'goose' or (SC) *gȕšterica* 'lizard'; R *guž* 'rope', P *gążew*, Cz *houž*, Sn *gǫ̑ž* 'strap', SC *gûžva* 'braid', Bg *gə́žva* 'turban' is not connected with (OCS) *ǫže* 'fetter', *vęzati* 'tie'; it may be a cognate of ON *kengr* 'hook' and its *g* in this case is a part of the root.

For *v-* due to blendings, cf. also US *wěsty* 'genuine', related to OCS *istъ*; its *v-* comes from the root *wědźeć* 'know';

Pb *vėz* 'from', related to OCS *iz*, obtained its *v-* from other prepositions as *vüb* 'around', *vüt* 'of, from', *vüz* 'asunder', etc.

When the morphological structure of a word became obscure contraction might have taken place to eliminate hiatus, or a consonant could have been inserted. These instances are not numerous and the chronology of changes in CS or in the earliest periods of the independent Sl language histories is unknown. Because of this it is hardly possible to say whether the choice between contraction or insertion was originally dialectal, or if insertion was at first a common development but later in separate languages *j* (or *v*) was lost and, hence, contractions occurred, usually if the vowels in question had proximity in their articulations.

The choice of the consonant which was inserted if an insertion did occur could shed light on the problem of a conjectured *v*-prothesis before ₒ*a*-, presumably submerged by subsequent developments (See section 6). The material on hiatus on morpheme boundaries is valuable because of the impossibility of a pause; in this case the inserted consonant might have been stabler than on word boundaries. On the other hand, on morpheme boundaries due to their fixed character the influence of the final vowel of the preceding morpheme may be stronger than on word boundaries.

The rare data rather confirm the assumption of *v*-prothesis stage before *a*- in CS. The instances for ₒ*a*(N) are:

a) Root + root: P *motowąz* 'fishing line' (from *mₒatₒa- cf. (R) *motát'* 'wind' — *ₒaNz- cf. (OCS) *ǫže* 'fetter'), Cz dial *motovouz* 'string', Sn *motovòz*; contracted forms occur in U *motúz*, Sk *motúz*, Cz *motouz*, Sn dial *motóz*, SC *màtuzica*; no inserted consonant in R *motoúz*. The choice of -*v*- is dictated by ₒ*a*(N) at the beginning of the second root;

b) Prefix + root: Br, U *pavúk* 'spider' (from the root *ₒaNk- as represented in SChSl *ǫkotь* 'crookedness', OR *ukotь* 'hook'), LS, US *pawk*, Sk *pavúk*, Cz *pavouk*, Sn dial *pâvok* vs. *j*-forms in P *pająk*, Pb *pójąk* (pogang), Sn *pâjek*, M *pajak*, Bg *pájak* and forms with no insertion in R *paúk*, SC *pàūk*. The absence of either *v* or *j* in R and SC, two languages which did not lose intervocalic *j*, implies that *j*-forms are hardly CS. Besides that, the influence of the other form of the root, with *e*-grade and prothetic *j* represented in MBg *ęčaja* 'loop', R *jačéja* 'cell', is to be considered for *j*-forms. On the other hand, *v* is represented by those languages which developed prothetic *v* before *u*- of any origin in their individual histories, so that it cannot be derived from CS on the basis of these languages alone. Hence, the case is inconclusive: a CS *j* motivated phonetically cannot be assumed for this word; whether it had *v* which was later lost or never had an inserted consonant at all is an open question.

The same vacillation *v* ~ *j* is found in the position before a front vowel in OCS *rǫkovętь* 'sheaf', R dial (Olonec) *rukovjátka* 'handle', Sk *rukoväť* 'grip', Sn *rokovệt*, SC *rŭkovēt* vs. R *rukojátka*, P *rękojęść*; OCS also has *rǫkojętь*, and Cz has both *rukověť* 'manual' and *rukojeť* 'grip'. The reason for the fluctuation in this case is a conflict between the final vowel of the first component and the initial vowel of the second one. The first component was in gen du, ending in ₒ*au* (OCS *rǫku*), and it was this -*u* which produced -*v*-. On the contrary, the initial vowel of the second component had to take prothetic *j*.

An apparently similar interplay of intervocalic *v* and *j* is also found on the boundaries of roots and suffixes, e.g. in OCS *ubijati* ~ *ubivati* 'kill'. Yet the origin of this phenomenon is different. It is to be explained by the system of vowel alternations. Forms with lengthened grade of the type of OCS *myti* 'wash' ($y < \bar{u}$) should have had corresponding zero grade forms (if any) of the type *mŭ- with *ŭ* obtaining a consonantal status before a vowel, e.g. in past pass part *mven-. Under the influence of *r*, *l*, N alternations where zero grade was represented by *ĭr*, *ŭr*, *ĭl*, *ŭl*, *ĭ*N, *ŭ*N, *ĭ* or *ŭ* was introduced in the forms of the type *mven- thus becoming *mŭven- (OCS *mъvenъ*). Subsequently, *ŭ* was comprehended as the only representative of zero grade because of its function in other words (as, e.g., OCS *kъznь* 'intrigue' vs. *kovǫ* 'forge'. This problem is examined in more detail in 19, 9), and

consequently the status of *v*, originally the representative of the ≠ grade of *u*-diphthongs, was reduced to that of a parasitic, allegedly hiatus-breaking consonant. This made it possible to use it also in the iterative verbs based on the root vowel in lenghtened grade, such as (OCS) *umyvati* 'wash', where it was not at all justified from the point of view of historical phonology. The next step was the possibility of an interchange of this "inserted" *v* with "inserted" *j*, irrespective of the preceding vowel, so that *v* became possible even after *i* and, on the other hand, *j*, at least theoretically, could have spread even to the position after *u*[8], not to speak of other vowels.

It is this situation which is reflected in the above cited OCS doublets. Cf. also R *tájat'* 'melt', P *tajać*, LS *tajaś*, US (with contraction after the loss of *j*) *tać*, Cz *táti*, Sn *tájati*, SC *tȁjati*, Bg *tája* vs. Br *rastavác'*, U *roztavaty*, Sk *tavit'* (trans); cf. also OCS *izlijati* ~ *izlivati* 'pour out', *upajati* 'give to drink' vs. *upivati sę* 'get drunk', *dajati* 'give' vs. *razdavati* 'distribute', P *krajać* 'cut' vs. *skrawać* 'cut off', OCS *zijati* 'yawn' vs. R *zevát'*, R *paját'* 'solder' vs. P *spawać*, P *glej* 'loam' vs. *gliwieć* 'grow slimy (of cheese)', R *verojátnyj* 'probable' vs. SC *vȅrovātan*, etc.

In cases where insertion of *v* or *j* is a concomitant of lengthening in the preceding vowel the development may be from an earlier period and the "inserted" consonant can represent a lost laryngeal of labializing (H_3) or palatalizing (H_1) character. The possibility cannot be ruled out that the oldest type of these "insertions" was, then, a reflex of the pre-CS laryngeals (See 2, 6).

8. Summary and outlook. As shown, the prothetic consonants of CS, *j* and *v*, did not always develop because of an aversion to hiatus. However, they can always be linked with the structure of CS vowels, which began with a kind of on-glide preceding the core of the vowel. This was the only decisive factor for prothesis in its earliest stage. Along with $_{e}a$, $_{o}a$ vowels the type $_{u}u$, $_{i}i$ arose (at least initially) which brought about *vu-*, *ji-*. It is, however, hardly accidental that the spread of prothetic consonants before other vowels fell into the period after the loss of final consonants when hiatus became frequent on word boundaries. At that time prothetic *j* developed before $_{e}a$- and presumably *v-* before $_{o}a$-; of the two the latter was subsequently lost except in a few isolated words and/or dialects.

The stages of development may be schematically presented as follows:

1. *v* developed before *ŭ̄-*, *j* before *ĭ̄-* – prior to the loss of final consonants (First – fifth century A.D.).

2. *v* developed before $_{o}$*ă̄-*, *j* before $_{e}$*ă̄-* – after the loss of final consonants (about the sixth century A.D.).

3. *v* was lost before $_{o}$*ă̄-* or its reflexes, with a few exceptions – at the time when $_{o}$*ā* was losing its $_{o}$-component (about the eighth century A.D. ?).

4. *j* developed before *ā-* (< $_{o}$*ā*) – at the time of final disintegration of CS, possibly not in every dialect (Bg).

Although *j-* and *v-* were often unstable under the conditions of prothesis and their use in certain environments contextual or optional, this did not mean that their phonemic status was lost. As shown in section 5d, at least before *u-* (< $_{o}$*au*) the etymologically conditioned distribution of words with and without *j-* has been basically preserved. In the historically attested Sl languages this is

[8] Most Sl dialects were prone to generalize *v* at the expense of *j*.

represented as the opposition of *j* to # (*u* 'at' vs. *ju*(*že*) 'already', *uxa* 'ear', gen sg, vs. *juxa* 'soup', etc.); earlier it was presumably an opposition of *v*- vs. *j*- but at no time could the loss of *j* have occurred painlessly, and its use or omission were never irrelevant in all positions.

Thus, the development of prothetic consonants in CS did not affect the system of phonemes. Instead, it had certain bearing on the structure of the syllable. The whole series of simplifications in consonantal clusters and the loss of final consonants made the syllables of the type C + V overwhelmingly predominant. The immediate result of prothesis as it arose in CS was that syllables consisting of a vowel alone were transformed into syllables of the type C + V (**ī*|*lo* > **jī*|*lo*, etc.). Besides the few admitted consonantal clusters (in syllable initial position), i.e. the type C + C + V or, very limitedly, C + C + C + V, the type C + V became the very model of a CS syllable. Combined with the typical structure of vowels having an on-glide preceding their core, this made a rising vawe of sonority typical of the CS syllable[9]. Only syllables with *i*, *u*, N, *r* and *l*-diphthongs as inherited from IE contradicted this new principle of syllabic structure. The peak of sonority in these syllables was not at the end of the syllable: C + V + S as opposed to C + V with rising wave in all cases. A clash between the principle of the rising wave of sonority and the presence of the "old" descending diphthongs was imminent (See 19,1 and 20,1).

Examination of prothesis shows that the structure of CS vowels followed the same principle of rising sonority as the structure of the syllable. The peak of sonority was not the vowel as a whole but the last part of the vowel which was also the core of the vowel in terms of duration. The above stratification of CS prothesis chronologically presented can be rephrased in terms of causality as follows:

1. Prothesis conditioned by the structure of vowels alone: *v* before *ŭ*-, *j* before *ĭ*-;
2. Prothesis conditioned by both the structure of vowels and hiatus: *j* before *ₑă*-, *v* before *ₒă*-;
3. Prothesis conditioned by hiatus only: *j* before *a*-.

It was characteristic of CS syllabic and vowel structure that while greatly developing the system of prothetic consonants it never resorted to prothetic vowels as did Irn, Arm, or Gr. Particularly before the initial clusters of the type *st*-, *zd*- in which the sonority of stops is lower than that of the preceding spirants many languages added a vowel at the beginning of the word. E.g., Sl *stog*-, *stol*- (as well as *dvor*-, with rising sonority) as Hung borrowings became *asztag* 'rick', *asztal* 'table', *udvar* 'court'. Sl does not have a prothetic vowel before *st*- etc. for with or without such a vowel the *st*-cluster would still belong to the same syllable, i.e. the syllable boundary in a certain +*isto*- would be

[9] Except for the distribution of sonority within the consonantal clusters of the type spirant + stop where the sonority of the spirant is higher than that of the stop (e.g. *st*, *str*). However, every syllable began on a lower level of sonority than that on which it ended.

+*i|sto-* and not +*is|to-*[10]. Thus, the absence of prothetic vowels in Sl proves that in CS of the time syllable boundaries immediately followed the vowels and did not dissect consonantal clusters.

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[10] If there seems to be such a vowel in, BgChSl *istъba* 'covered place', R *izbá* 'peasant house', etc., as compared with Germ (OHG) *stuba*, it clearly indicates that if the word was borrowed it was not from Germ but from Rom **estufa* (which in Sl took a prothetic consonant! Cf. Cz *jizba* 'room'), or perhaps Balt **iestubà* (cf. Li *iesmẽ* 'firewood').

17. FIRST REGRESSIVE PALATALIZATION OF VELARS

1. General statement. 2. Examples. 3. Chronology. 4. Conditions and effects. 5. Problem of *ǯ* > *ž*. 6. First palatalization of velars before *ě* (*ₑā*). 7. Some effects of the first palatalization of velars before *ě*

1. Simultaneously with or soon after the change of the clusters *kj*, *gj*, *xj* into *č'*, *ǯ'* (>*ž'*), *š'* the velars *k*, *g*, *x* changed into *č'*, *ǯ'*, *š'* before all front vowels, i.e. *ĭ*, *ₑă* and diphthongs with *ₑa* as their first component. This is known as the first regressive CS palatalization of velars.

The reflex *š* is preserved in all Sl standard languages (in Pb it yielded *s*); the reflex *č* in all Sl standard languages, except LS (and Pb), where it gave *c*. Already in CS *ǯ* became *ž*, and so it is represented in the attested Sl languages (but Pb *z*). The palatalization of hushing consonants, being nonphonemic, has been lost in most Sl languages, but this is a result of individual developments in relatively recent times.

2. Examples. a) *k*, *g*, *x* before *ī*: **kʷī* 'what' (instr sg): OR, Sk, Cz *či* 'whether', U *čy*, P *czy*, Pb *cě* (tzitt), Sn dial *čì* (Cf. La *quī* 'how', OIcel *huī*);

**gʷīv-*: OCS *živъ* 'alive', R *živój*, Br *žyvý*, U *žyvýj*, P, LS *żywy*, US *žiwy*, Pb *záiṷə* (seiwe), Sk, Cz, M, Bg *živ*, Sn, SC *žîv* (Cf. Li *gývas*, OPr *gijwans* (acc pl), OI *jīvás*, OPers *jīva-*, Gr βίος 'life', La *vīvus* 'alive', Ir *biu*, Go *qius*);

**-īn(ā)*, as in OCS *tišina* 'silence', R, Bg *tišiná*, Br *cišynjá*, LS *śišyna*, US *ćišina*, Sk *tíšina*, Cz *tišina*, Sn *tišína*, SC *tišìna*, M *tišina* (derived from **tₑaix-*, cf. OCS *tixъ* 'quiet', etc.).

b) *k*, *g*, *x* before *ĭ*. Copious examples are provided by alternations of velars before adjectival suffix *-n-* < *-ĭn-*, with *ĭ* lost: OCS *mlěčьnъ* from *mlěko* 'milk', *nožьnь* from *noga* 'foot', *grěšьnъ* from *grěxъ* 'sin' (Cf. Li *geležìnis* from *geležìs* 'iron', Gr φήγινος from φηγός 'oak', La *fāgineus* from *fāgus* 'beech', etc.).

c) *k*, *g*, *x* before *ₑa*: **kel-*: OCS *čelo* 'forehead', R, Bg *čeló*, Br *čaló*, U *čoló*, P *czoło*, Pb *celű* (züli) 'cheek', LS *coło* 'forehead', US *čoło*, Sk, Cz, M *čelo*, Sn *čẹ́lo*, SC *čèlo* (Cf. Li *kélti* 'lift', Gr κολωνός 'hill', La *celsus* 'high', Go *hallus* 'hill';

**g(ʰ)e*: OCS *že*, a particle, R, Br, U, Sk, Cz *ž(e)*, P *ż(e)* (Cf. OI *ha* ~ *gha*, Gr γε, Go *(mi-)k*;

SChSl, RChSl *šlěmъ* 'helm', R arch and dial *šelóm* 'helm; ridgepiece', Br *šalóm* 'helm', U *šolóm*, OP *szłom*, Cz dial *šlem* 'ladies hairdress', Sn *šlẹ̀m* 'helm', SC *šlêm*, Bg *šlémət*, borrowed from OGerm **helmaz* (Go *hilms*) 'helm'.

Forms of the voc. sg. of *o*-stems belong here: OCS *bogъ* : *bože* 'god', *člověkъ* : *člověče* 'man', *duxъ* : *duše* 'ghost'.

d) *k*, *g*, *x* before *ₑā*. For examples see section 6.

e) *k*, *g*, *x* before *ₑai*: SC *čȉtav* 'whole', Bg *čítav*, cf. Li *kietas* 'hard, solid', Le *ciêts*;

R *žito* 'corn, grain', Br *žýta*, U *žýto*, P *żyto*, LS *žyto*, US, Sk, M *žito*, Pb *zaịtű* (seití), Cz, Sn, Bg *žito*, SC *žȉto* (Cf. OPr *geits* 'bread', Ir *biathaim* 'feed');

R *širókij* 'broad', Br *šyróki*, U *šyrókyj*, P *szeroki*, LS *šyroki*, US *šěroki*, Pb *sarűt'ə* (sáritga), Sk, Cz *široký*, Sn *širòk*, SC *šìrok*, M *širok*, Bg *širók*, if cognate of Go *skeirs* 'clean, clear' (through metatheses *sk-* > *ks-* > *x-*).

f) *k, g, x* before ₑ*aN*: OCS *čęstь* 'part', R, Sk *časť*, Br, U *částka*, P *część*, US *časć*, Cz *část*, SC *čêst*, Bg *čest*, cf. Li *kándis* 'bite', Le *kuôst* (both in *o*-grade);

OCS *žędati* 'thirst', Br *žadác'* 'strive', U *žadáty* 'demand', P *żądać*, LS *žedaś*, US *žadać*, Sk *žiadat'*, Cz *žádati*, cf. Li *pa-si-gendù* 'long' (1 sg);

OCS *šętati sę* 'rage', R *šatát'* 'sway', U dial *šatátysja* 'scurry', Cz *šátati* 'move', Sn *šétati se* 'stroll', SC *šétati* 'walk', M *šeta*, Bg *šétam* 'stroll', cf. Go *siuþs* 'walk; time' (from **ks-*).

g) *k, g, x* before ₑ*au*: R *čúrka* 'wooden block', Br, (N)U *cúrka* 'stick' (with *c* < *č*), cf. Li *kiáuras* 'holey', Le *caũrs*;

R, Br, U *žujú* 'chew' (1 sg), P *żuję*, LS, US *žuju*, Pb *závət* (sawat, inf), Sk *žujem*, OCz *žvu*, Sn *žvéčiti*, SC *žvákati*, Bg *prežívjane* 'rumination, cud', cf. Li *žiáunos* 'cheekbone', OHG *kiuwan* 'chew';

OCS *šui* 'left', R *Šúja*, river-name, Sn *šûj*, SC *šùvāk* 'left-hander', cf. OI *savyás* 'left', Cym *aseu* (< **adseu-*).

If *k, g* were preceded by *s, z* the latter became involved in the palatalization so that *s, z* > *š', ž'*. As a result of dissimilation these new clusters *š' č', ž' ǯ'* are reflected as *št('), žd(')* in some Sl languages, namely OCS, Sk, Cz, M, and Bg: R *ščit* 'shield', Br, U *ščyt*, P *szczyt*, LS *ščit*, Sn *ščìt* vs. OCS *štitъ*, Sk, Cz *štít*, SC *štît*, M, Bg *štit* (US *škit* with secondary [k'] from [c']), cf. Li *skiẽtas* 'joist', Le *šķiêts* 'weaver's reed';

R *dróžži* 'yeast', Br *dróždžy*, U *dríždži*, P *drożdże*, LS *droždźeje*, US *droždźe* vs. OCS *droždiję*, Sk *droždie*, Cz *droždí*, SC *dròžda*, Bg *droždie*, cf. Sn *drôzga* 'mash'.

The clusters *št, žd* developed in the individual Sl languages from *šč, žǯ*, which were CS. At the time of Great Moravian state, in the ninth century, the proto-Sk dialects still had *šč* (and probably *žǯ*) as attested in KFr: *očiščenie* 'purification', *zaščiti* 'protect'. SC preserves *šč* in *-ica* diminutives, as *dàščica*, from *dàska* 'board', *ljùščica* from *ljuska* 'husk, scales', etc.; furthermore, numerous dialects (W and NW) have *šć, žd*.

The same reflexes as those of the cluster *sk* before front vowels seem to be found also for *tk* in R *eščë* 'still', Br *jaščé*, U *šče*, P *jeszcze*, LS *hyšći*, US *hišće*, Pb *jist* (isst), Sn *još(če)* vs. OCS *ešte*, Sk *ešte*, Cz *ještě*, SC *jòš(te)*, M *ušte*, Bg *óšte*, if it goes back to **et* + *kʷe* (Cf. OI *áti* 'much', Av *aiti*, Gr ἔτι 'still', La *et* 'and', Go *iþ* 'and, but'; and OI *ca*, Av *ča*, Gr τε, La *que*). Generally the first component of the cluster *t* + *k* was lost (See 13,3); in this word it could have been retained if the two components for a certain time functioned as separate words. The case is, however, not clear.

The velars underwent no palatalization if a *v* occurred between them and the following front vowel. The forms of the type OCS (from Moravia) *skvrьnъ* 'unclean', *vlъxve* 'magician' (voc sg), Cz *kvičeti* 'scream', *kvíliti* 'howl', *kvésti* 'bloom', P *gwizdać* 'whistle', etc., are normally expected. If there occur sporadic forms with hushing consonants in these cases, they are due to affective affricatization and are mostly limited to individual languages. Even there they often occur as doublets of the normal forms. Cf. US *čvělić* 'torture', Sk *čvíkat'* 'gurgle', *čvíkota* 'ouzel', Sn *žvîžg* 'whistle', SC *žvŕljati* 'scribble'. It is not accidental that many of these forms are onomatopoeic and/or derogatory.

3. Chronology. The first palatalization of velars is common to all Sl languages. It is not shared with Balt: Li does not alternate *k, g* with *č, dž*, nor does OPr. Le has its *č, dž* from *cj, ʒj*; since *c, dz* go back to *k, g* before front vowels there is a kind of alternation of velars with *č, dž*. But the phenomenon is relatively recent and, as is clear from the above, developed under conditions different from the first palatalization in Sl.

In the treatment of *k*, *g* before front vowels CS did not differ from the East Rom languages (Rm, Rhaeto-Romanic, It; but not Dalm before *e*), with which the Slavs were in contact since the time of their Balkan invasion. Cf. Rm *pace* 'peace' < La *pācem*, *lege* 'law' < La *lēgem* [páče, léǯe]. The chronology of this palatalization in Eastern Rom is conjectural. The velars *k*, *g* were still unchanged when Dacia was first occupied by the Romans (107 A. D.); the palatalization seems to have been completed or in completion soon after the time of the Sl invasion of the Balkans (the sixth century.)

The evidence of Sl is somewhat contradictory. Sl loan words and place-names in Gr never show unchanged velars before front vowels. For Sl *č*, *ž* (*ǯ*), *š* Gr substitutes its τσ, ζ, σ, which would have been unnecessary had Sl preserved its velars. See, e.g., Τσερνίτσα < *Čьrnica* (Messenia), Τσιρναόρα < *Čьrna Gora* (Messenia), Ζεγοβίστι < **Žegovišče* (Arcadia), Στρούζα < **Stružija* (Phocis); Σίρακον < *Široko* (Attica), Βερσίτσι < **Vьršьcь* (Achaia). This would indicate that palatalization of velars was completed in Sl by the seventh century at the latest. In the place-names of Rom origin in Dalmatia there are cases of *č* < *k* before front vowels, e.g. *Brgačělj*, name of a hill in Ugljan, from Ill *briga* 'hill' + Rom suffix *-cellus*; *Ričul*, island-name (near Pašman), from La *ericius* 'hedgehog', *Čedad*, city-name, from **cividade* (It *Cividale*), *Žman*, city-name (Veli Otok), from *Gem(i)nianum*. These data are, however, not to be taken at their face value. True, *č* (and *ž*) from velars before *e* did not exist in the local Rom speech, nor before *ī* in its southern dialects, but it could have been Italian and not a change introduced by the Slavs. The same must be said about the (W)Sl word for 'cross': P *krzyż*, LS *kśica*, US *kříž*, Pb *kraiz* (in place-names of the type *Kreisneitzen*), Sk *kríž*, Cz *kříž*, Sn *kríž*, SC *krȋž*, which is derived from Rom **kroge* (Aquileia region) and could have had *ǯ* in the lending language. One conclusion, however, may be drawn from these facts: if in the Sl words borrowed from Rom *č* and *ǯ* developed in Rom itself and Sl preserved them, it shows that at the time of borrowing the consonants *č* and *ǯ* were known in Sl; otherwise other consonants would have been substituted for them. This justifies the conclusion that the first palatalization was operating or completed in Sl by the sixth – seventh century at the latest.

Sl loan words from Germ are less ambiguous in that those Germ languages with which the Slavs were in contact had no palatalization of velars. If there is any palatalization it could have developed only in Sl. However, the evidence of Germ is also limited and ambiguous. Virtually only three words can be mentioned, and they differ in their reflexes of velars before front vowels: OGerm **helmaz* 'helm' cited above, with initial *š* in Sl, **hētaz* 'dress' (Cz *šat*) (See section 6), and Go **kirikô* (or OBav *kirkô*) 'church' with *k* reflected as *c* in Sl (OCS *crьky*, etc.). The first two cases follow the rules of the first palatalization, the third those of the second palatalization (See 21,1). It is obvious that at the time when the third word was borrowed the first palatalization no longer operated. But this does not allow one to conclude much about the chronology, because the source of the borrowing (Go or OBav) is uncertain. If it was borrowed from OBav, it is certainly not older than the sixth century and probably of a

later date. On the other hand, the presence of the first palatalization in the two other words only shows that the first palatalization took effect after the first Sl-Germ contacts, i.e. after the first century B.C., and probably after 200 A.D.[1]

More positive evidence is provided, at least for the NE Sl tribes, by the river-names R *Lučesá* (N Belorussia and Smolensk area in Russia) from Balt (Li *Laukesà*, a derivation from *laũkas* 'field), *Volčesa* and *Ačesa*, also from Balt (Li *Vilkesà, Akesa*, derivation fron *akìs* 'eye; well'). The Slavs took over this area from the Balt tribes no earlier than the fifth – sixth century. It can be inferred that at that time the first palatalization still was productive. The same follows from the analysis of the oldest Sl loan words in Fi: *ies* 'yoke' from the oblique case stem of the word which is attested as OCS *igo* 'yoke': **jigₑas(ₑa)* (gen sg) where Sl *ž* was to be rendered by Fi *s*, while *g* could have been dropped; Fi *hirsi* 'beam', Est *hirś* 'pale', from Sl **girdi* (OCS *žrьdь* 'pale'); and possibly Fi *kimalainen* 'bee', from Sl **kimₑal-* 'bumblebee' (P *czmiel*), although in this instance the word may be indigenous and cognate of Fi *kimara* 'honey'.

If all the data able to shed light on the chronology of the first palatalization, as limited as they are, are taken into consideration, the most plausible period is the fifth and the sixth century. This is also in agreement with other changes in CS as examined in the preceding chapter, and shows that the same change in Rm might have developed under the impact of Sl contacts.

In the following centuries (sixth to eighth) the second palatalization of velars took place, as is obvious from the fact that most Dalm place-names reflect local Rom *k, g* before front vowels as *c, z* (e.g. *Crês*, island-name, from **kerpso*, *Zeta*, river-name, from *Genta*, etc. For more details and examples see 21,7). By the time of the Sl activities of Constantine and Methodius (mid-ninth century) it too became unproductive. Borrowings from Gr made at that time retain velars before front vowels (*ģisterъna* 'cistern', *kedrъ* 'cedar', *kitъ* 'whale', etc.). Yet preservation of a velar before a front vowel in a loan word at that time probably still conferred a learned character to it. In popular speech, at least dialectally, these combinations were shunned and occasional hushing consonants introduced to replace velars. Some examples of such late repercussions of the first palatalization are probably R (in *byliny*) *Čurila*, personal name, from Gr Κύριλλος, OR *Čuprianъ*, personal name, from Gr Κυπριανός, U *Nečýpir*, personal name, from Gr Νικήφορος, U dial *čečúha* 'sterlet', from Hung *kecsege* 'sturgeon' (Cf. also Rm *căciúgă*). These facts are unsystematic, and many of them attributable to the mediation of Serbian, which regularly substitutes its *ć, đ* for Gr κ, γ before front vowels: *Ćȉril, Nȉćifor*, etc. Examples of substitutions of that type probably were more numerous, but for the most part limited to folk speech and suppressed by the tradition of the ecclesiastic and literary language. It would be erroneous to draw any conclusions concerning the time of the first palatalization from these late repercussions.

[1] If Cz *Žiži*, name of a hill in Prague, comes from Germ *sig-* (Go *sigis* 'victory') it enables one to locate the first palatalization of velars in the time following the settlement of the Slavs in Bohemia.

4. Conditions and effects. Palatalization of velars before front vowels resulting in hushing or hissing affricates is one of the most frequent and commonplace changes. It occurs in languages of diverse origins and systems. In Sl it was not, despite its traditional name retained in this book, the first palatalization of velars. The alteration known as the elimination of palatovelars which resulted in their change into *s*, *z* (See 9,1), was in fact the chronologically first "palatalization" of velars, for which a transitional stage with affricates may be surmised. The two phenomena, however, were separated by a long interval and took place under quite different conditions, both historical and linguistic. The first palatalization of velars soon was followed by the second palatalization (See 21,1). In modern Sl dialects some new palatalizations of velars can be observed (See 34, 11f). This is thus a constantly recurring change conditioned primarily by articulation (*k*', *g*', *x*' being close to *ć*, *ʒ́*, *ś* from an articulatory standpoint).

What is traditionally called the first palatalization of velars in CS was also articulatorily motivated. There were, to boot, other factors which prompted it. The ground for the first palatalization was prepared phonemically by the change of consonantal clusters *kj*, *gj*, *xj* (and *sj*) into *č*', *ǯ*', *š*'. The new phonemes /č/, /ǯ/, /š/, which were by-products of the trend toward elimination of consonantal clusters, at the same time marked further growth of the phonemic inventory (See 14,7). The first palatalization did not augment the number of phonemes, but it increased the frequency of use of the new hushing consonants and by the same token reinforced them. The principal effect on the phonemic system was to introduce a new principle in the distribution of phonemes, which, once applied, spread beyond its original limits and brought about new changes in CS. This new principle can be labeled intrasyllabic harmony. According to it the consonant(s) and the vowel in the syllable[2] were to be characterized by essentially the same degree of apperture. Front vowels tended to be used with palatalized consonants, i.e. consonants articulated with the middle part of the tongue raised toward the palate. Velars, the consonants which were articulated farthest back and with the middle part of the tongue lowered, were no longer admitted before front vowels. There was a growing tendency to have not the phoneme but the syllable as the minimum unit of the language. The response to the expansion of phonemic inventory in CS was, at this stage of development, not to eliminate phonemes but rather to impose limitations on their distribution. The excessive number of phonemes was to be neutralized in its effects by the redundance of syllable components: in the framework of a syllable the character of the vowel and the character of the consonant were becoming mutually predictable to a certain degree. Of course, this predictability and the adaptation of the principle of intrasyllabic harmony was not complete; e.g., a front vowel at the end of a syllable never excluded the use of any non-velar consonant at the beginning of the syllable. It only leveled out the use of

[2] It must be borne in mind that at that time, after the simplification of most consonantal clusters and the loss of final consonants, syllables were as a rule open and followed the pattern C + V or CC(C) + V.

velars. A non-front vowel at best merely excluded the use of palatal consonants. Within the series admitted before certain types of vowels the choice of voiced or unvoiced, affricate or spirant, sonant or non-sonant was still open. CS never became a really "syllabic" language and, after a few steps in this direction, the trend was abandoned, as will be shown later.

Prior to the first palatalization, as well as after it, freedom in combining phonemes underwent restrictions due to simplification of consonantal clusters. Now the restrictions were extended to the combination of consonants with vowels, an unprecedented change in CS, which, in its further repercussions, was also to obscure and endanger the system of vocalic alternations: so far the latter had been morphologically motivated; since that time certain limitations were imposed phonetically.

To summarize, the first palatalization of velars, trivial phonetically, was conditioned also phonemically. In its effects it introduced, for the first time in Sl, a trend toward intrasyllabic harmony, made vocalic and consonantal phonemes interdependent in distribution and obscured the functions of vocalic alternations.

A certain external influence contributing to the first palatalization of velars may be assumed. The principle of intrasyllabic harmony and of the interdependence of vocalic and consonantal systems was new in Sl and, to a great extent, alien to the typical structure of IE as a whole. From this point of view it is characteristic that the earlier palatalization (spirantization) of the IE palatovelars in Sl occurred in all positions identically and, consequently, was not conditioned by the structure of the syllable, nor did it produce any changes in this structure.

The principle of intrasyllabic harmony and interdependence in the distribution of vocalic and consonantal phonemes is a typical earmark of Uralo-Altaic, in particular the Alt languages, where it is especially obvious in the distribution of velars. There are no Alt texts extant from the time under discussion, viz. the fifth and the sixth centuries A. D., the oldest inscriptions (Yenisei inscriptions) having been compiled ca. 700 A. D. Yet the evidence of the living Alt languages, as well as of the oldest records, makes possible a reliable reconstruction of Proto-Turkic at least in some aspects of its phonetic and phonemic systems. In the OTu runes the very alphabet betrays the principle of intrasyllabic harmony. The vowels *o* and *u*, *ö* and *ü*, *ï* and *i* have no special letters each; but most consonants have two letters, one set for words with palatal harmony and another one for those with non-palatal harmony. The logical conclusion is that it was not a single vowel or consonant but the syllable as a whole which was characterized by the presence or absence of palatalization. For Proto-Tu the presence of back velar stops *q*, *ġ* as used before back vowels, and of velar stops *k*, *g* as occurring before front vowels, is fairly well established. This also applies to *ł* vs. *l*, and it is possible that velar spirants also had the opposition of back velars *χ*, *h*, *γ* vs. velars *χ́*, *γ́*[3]. Synharmonism or vowel harmony, another earmark of most Alt languages, was based on the word as a phonetic unit. While labial harmony (requiring presence of only labialized or only non-labialized vowels in a word) is probably the result of a later development, the palatal harmony (requiring presence of only front or only non-front vowels in a

[3] In the SW Tu languages *k*, *g* are acoustically close to *č*, *ǯ* (Räsänen), although this can be a recent development. The date of this change is uncertain.

word) is generally ascribed to Proto-Tu, and probably rightly so. Yet word harmony is but an expansion of the principle of intrasyllabic harmony, and the latter is the key to the distribution of vowels and consonants in Alt.

Sl contacts with Alt tribes began, as indicated in 1,5 and 35,8 no later than about 375 A. D. when the empire of the Goths, to which a great part of the Sl tribes belonged, crumbled under the assaults of the Huns. Little is known about Hunnic, but at least some of their words which are preserved can be deciphered from Tu. With the disintegration of the Hunnic empire after the death of Attila (451), and of his son Dengizich (469), the Sl-Alt contacts and the dependence of the Slavs on Alt nomads and conquerors did not lessen. The remaining Huns in contact with the O(no)gur tribes probably gave rise to the Bulgars (Proto-Bulgarians), whose name is for the first time attested in 480. From their center northeast of the Black Sea they undertook a series of devastating invasions west and southwest, penetrating as far as Illyricum, Moesia, Thracia, and the very ramparts of Constantinople (514–15). The Slavs were certainly involved in these campaigns. In the late seventh century under the pressure of the Khozars, the Bulgars split up. One part, under the Khan Asparuch, founded a state in what is present-day Bulgaria (680) where the undoubtedly Tu language of the Bulgars gradually dissolved in Sl. Another part moved northwards, to the Middle Volga. The continuation of their language is Mo Chuvash.

The Sl-Alt contacts became particularly deep and all-comprehensive in the state of the Avars after the subjugation of the Antes (558) and the foundation in 565 of a mighty empire centering in the area between the Danube and the Tisza. Participation of the Slavs in numerous frightening incursions of the Avars into Byzantium and other countries is well attested documentarily. When, in 601, the Byzantine army defeated the Avars on the Tisza and captured a host of prisoners, only one fifth were Avars proper while one half were Sl. The Avars dominated a great many of the Slavs, as is well known, until 791, and there is no doubt that during all that time there was a kind of symbiosis between the Slavs and the Avars.

Of the nineteen Avar words (personal names) recorded in Byzantine texts, taken as a sample, fourteen, according to Moravcsik, are decipherable from Alt, mostly Tu or Mongolian. From the point of view of word structure, only three words out of nineteen do not follow the rules of synharmonism and intrasyllabic harmony. If one takes into account, on the one hand, the inevitable distortions in the recording of the Avar names by Byzantine scribes and, on the other hand, the mixed character of the population of the Avar state (one of the exceptional names seems to be of Germ origin!) it may be averred beyond any doubt that both intrasyllabic and palatal word harmony of vowels were characteristic of Avar.

Neither in the first nor in the second palatalization of velars did CS introduce an Alt word pattern; but in the ensuing principle of intrasyllabic harmony CS came close to the Alt structure of the syllable. Of course, there are not and can hardly be any positive proofs that Alt influences or Sl-Alt contacts contributed to the Sl development; yet considerations of time and space tend to corroborate such an assumption. The time is that of the closest Sl-Alt contacts. For centuries and millenia velars were retained in all positions. Is it accidental that the palatalization took place in the fifth/sixth centuries when the Slavs were so deeply involved in the sway of the Alt peoples? It may also be significant that the palatalization of velars before front vowels took place about the same time in Rm. The Proto-Rm population was in close contacts with both the Slavs and the Bulgars and Avars, the allies and sovereigns of the Slavs[4].

Against this background, it seems plausible that the rise of a trend toward intrasyllabic harmony in CS during the fifth – eighth centuries could have been

[4] In vocabulary OCS *xorǫgy* ‘flag’ < Mongolian **horuŋγo* and possibly R *telḗga* ‘cart’ < Mongolian (Avar) **tǟlgän* bear witness to early Sl-Alt contacts.

favored by the Sl-Alt contacts. If this assumption is to be accepted, however, it is necessary to emphasize once more that the whole development was prepared by the internal evolution of Sl. The external influence at best determined the time when the slumbering, latent tendency was to be unleashed, and contributed to the particular form in which the tendency was implemented. It was a typical interplay of internal and external factors such as occurs often in language histories.

5. Problem of ǯ > ž. As mentioned in section 1, ǯ had changed into ž already in CS. In no spoken Sl language and in no record of Sl is there attested ǯ from *g* before front vowels. Thus it is clear that the change occurred before the tenth century. Unfortunately, this is the only explicit indication as to the chronology of the alteration ǯ > ž.

It was suggested that ǯ existed for a long time, until the very beginning of Sl writing. This view was based on the simplification of the cluster žǯ > *žd*(') in OCS as well as in Sk, Cz, SC, M, and Bg, of the type of OCz *zábřěždě* 'it dawned' (Mareš). Clusters of *žd*(') type undoubtedly arose from žǯ, not from žž (See 14,4), but the preservation of ǯ in this particular environment does not prove anything about ǯ in other positions. In R, e.g., *dróžži* 'yeast' is still pronounced as a rule with [ž'ǯ'] cluster, and yet in all other positions R does not have ǯ at least from the time of the very first records (the eleventh century). There is a hypothesis that the language of Constantine and Methodius still had ǯ, denoted in the Glagolitic alphabet by ⰼ (Durnovo, Trubetzkoy), but this tempting hypothesis, even if accepted, would indicate the presence of ǯ in earliest OCS but not necessarily as the reflex of *g*.

The elimination of ǯ in favor of ž did not meet any serious opposition in the phonemic system of CS. The coalescence of ǯ (< *g*, *gj*) and ž (< *zj*) created few if any critical homonymic pairs. The loss of a phoneme was only too welcome in the crowded phonemic system of that period. The series of palatal and palatalized consonants to which ǯ belonged did not utilize voice opposition for all its members; and the matching series of velars was odd, too, consisting of three members: *k*, *g*, *x*. In a sense, the new palatal series which, after the loss of ǯ, also consisted of three phonemes

č	ǯ		č	
		>		
š	ž		š	ž,

became a closer counterpart of the velar series than the preceding four-phoneme system. The correspondence was not ideal, because the velars had two stops vs. one non-stop (spirant) while the palatals, after the loss of ǯ, consisted of one "stopoid" (affricate) and two non-stops (spirants):

č		vs.	*k*	*g*
š	ž		*x*,	

but both series were based on the relation of two unvoiced vs. one voiced.

A complete symmetry would have been created by a change of ž into ǯ. But this would have meant phonetic complication. Besides, the coalescence of ž and ǯ into ž was prompted by the system of consonantal alternations as a whole. In the alternations of voiceless consonants š took part in two: *s* : š and *x* : š. Since *s* could alternate occasionally with *x* a three-way alternational scheme can be assumed:

s : š : *x*

If transferred onto the voiced counterparts of these consonants the pattern would have been *z* : ž : *g*, with no place for ǯ.

Thus the way for the change ǯ > ž was paved by phonetic and alternational factors with but weak resistance, if any, from the phonemic system. There is a remote possibility that the loss of ǯ from *g* could also have been supported by Sl-Alt contacts. Turkologists doubt whether Proto-Tu had ǯ, and if it had this affricate it is said to have been mostly limited to the initial position; as for č, it certainly was a phoneme of Proto-Tu. The elimination of ǯ in Sl brought its phonemic system closer to Alt. The absence of ǯ is also posited for Danube-Bg (but not Volga-Bg. Räsänen). The situation in Avar is unclear and the whole assumption remains conjectural, though deserving further investigation.

6. First palatalization of velars before ě (ₑa). When citing examples of the first palatalization of velars in section 2 no examples were given for the position before ě. The development of velars in this position was the same as before all other front vowels, i.e. *k*, *g*, *x* > č, *ǯ, š, but here there was a complication: the vowel found in this position in the attested Sl languages as a rule is not the usual reflex of ě but *a*. The simplest explanation for this fact is that the on-glide of ₑā, after having palatalized the preceding consonant, changed itself into *j* (i̯) and became absorbed by the preceding consonant. After losing its on-glide ₑā naturally became ā. The same occurred after *j*. When, later, ₑā changed into ā (See 26,7) it coalesced with ā from ₑā after hushing consonants. Phonemically, this *a* was from the very beginning an allophone of ₑā which was not admitted in the latter form after hushing consonants.

This viewpoint may be accepted only if an explanation is found for the fact that ₑă, the short counterpart of ₑā, did not yield ă: its reflexes in this position, basically, do not differ from those in any other position. This question will be taken up at the end of this section.

The most obvious examples of ₑā > ā after hushing consonants (from velars) and *j* are those of verbs with the suffix (IE) ē, to denote physical condition in space: OCS *ležati* 'lie', *stojati* 'stand' vs. *sěděti* 'seat'; R *ležát'*, *stoját'* vs. *sidét'*; Br *ljažác'*, *stajác'* vs. *sjadzéc'*; U *ležáty*, *stojáty* vs. *sydíty*; LS *lažaś*, *stojaś* vs. *sejźeś*; Sk *ležat'*, *stát'* vs. *sediet'*; Sn *léžati*, *státi* vs. *sẹdẹ́ti*; SC *lèžati*, *stàjati* vs. *sèdeti*. A complication is found in P, US, and Cz, which have *e* in these infinitives: P *leżeć* as *siedzieć*; US *ležeć*, *stojeć* as *sedźeć*; Cz *ležeti* as *seděti*. In Cz *e* is generalized in pret, too: *ležel*, *ležela*, *leželi*, *ležely*. In P it occurs in masc pers pl (*leżeli*), but otherwise *a* is found: *leżał*, *leżała*, *leżały*. US presents similar distri-

bution: *ležal, ležala* but *leželi*. The situation in Cz is not original: OCz had *ležěli* but *ležal, ležala*, i. e. as in P and US. In addition, there is an apparent deviation in ESl: R *kišét'* 'swarm', Br *kišěc'*, U *kyšity*. In older U, however, a form with the expected *a* was also used ("*Vse věštalosja, vse kyšálo*", Kotljarevs'kyj, *Enejida*, 6,125). Of interest also are the Br forms *hučěc'* 'sound', *stučěc'* 'knock'.

Departing from these facts Mikkola expressed doubt that *ě* changed into *a* after *j* and hushing consonants in CS; and Buzuk tied it in with the following syllable, accepting the change only for the position before a non-front vowel, i.e. considering P, US and OCz alternations as CS and the simpler system of the other Sl languages as having resulted from later levelings. This view must be rejected, however, for the following reasons:

a. It is not typical of CS of that period to let the following syllable determine the character of the preceding one (Although see 23, 13). It was a language of clear-cut syllables, and what changes it underwent occurred as a rule within the syllable. Only later did this situation change.

b. P and Cz have contracted forms of the verb *stojati*: P *stać*, Cz *státi*. They show unambiguously by their *a* that these verbs originally had *a* after *j*: the contraction of *o* + *ě* could in no way produce *a*. These contractions are undoubtedly post-CS developments.

c. The alternation *e* : *a* in the verbs of the type examined follows precisely the rules for *přehláska* (*Umlaut*) of *a* between palatalized consonants in OCz, and the pattern of alternations of the *ě*-reflexes in P (*a* before hard dentals, *e* in other positions). Thus, in OCz *a* in the verbs of the type *ležeti* followed the general development of any *a*, while in P verbs with *ě*-suffix it was adapted to the alternation *a* : *e*. Finally, in US this alternation is of a later date, from the seventeenth century.

d. R *kišét'* and its counterparts in Br and U, as well as Br *hučěc'*, etc. probably result from morphological levelings. In the fourth class conjugation the suffix *a* is rare, *e* being much more typical. The substitution is only natural. It is also known to occur in other words in (N)R dialects where the forms *dyšét'* 'breathe', *kričét'* 'shout', etc. are recorded (these might also be conditioned phonetically: *a* > *e* between the palatalized consonants).

It may be inferred that in -*ě*-verbs of the fourth class *ě* after hushing consonants and *j* was represented by *a* in all dialects of late CS.

The change *ě* > *a* is evident also in some other suffixes which occur in two variants, with *a* after hushing consonants and *j* and normal reflexes of *ě* in other environments, e.g., the suffixes -*ělь* ~ -*alь* (OCS *svirělь* 'lyre' vs. ChSl *pištalь* 'flute', R *piščál'* 'pipe; arquebus', P *piszczel* 'pipe', Sk, Cz *píšťala*, Sn *piščâl*, Bg *pištjálka* vs. (P) *pisk* 'piping'; cf. also OCS *pečalь* 'sadness', R. Br, U *pečál'*, Sn *pečâl*, Bg *pečál* vs (OCS) *pekǫ* 'bake; burn'); -*ěj*- ~ -*aj*- (OCS *veręja* 'bar, bolt' vs. *lęžaja* 'brood hen'); -*ětelьn*- ~ -*atelьn*- (R *vladétel'nyj* 'sovereign' derived from *vlast'* 'power' vs. *tščátel'nyj* 'painstaking' derived from OR *tъska* 'anguish'); -*ě*(*ti*), 1 sg -*ějǫ* ~ -*a*(*ti*), 1 sg -*ajǫ* (OCS *skǫděti* 'grow scanty' vs. *mǫžati sę* 'take courage'). Cf. also in comp, OCS *nověi* 'newer' vs. *mękъčai* 'softer'.

A special case is the interplay of the suffixes -*(j)ān(īn)* and -*ěn(īn)*. The first is broadly represented in all Sl languages, e.g. R *rímljanin* 'Roman', Br *rýmljanin*, U *rýmljanyn*, P *rzymianin*, Sk *Riman*, Cz *Říman*, Sn *Rimljan*, SC *Rímljanin*, Bg *Rímjanin*. OCS has *rimljěne* (Zo, Mar, with orthographic *ě* for *ja*, as indicated by the palatalization of *l'*), *rimьjane* (Su) and ambiguous *riměne* (Ass). The suffix -*ěn*- is well represented, e.g., in OCS *slověne* 'Slavs', OR *slověne*, name of tribe in Novgorod area, Pb *slüvénst'ə* (sliwêntsga) 'Slavic', Sk *Slovensko* 'Slovakia', Sn *slovęnski* 'Slovenian', SC *slòvēnskī* 'Slavic', M *slovenski*, Bg *slovénin* 'Slav' while R, Br *slavjanín*, U *slovjanýn*, P *słowianin*, Cz *Slovan* lead to the suffix -*jān*-. Fluctuations between the two suffixes are obvious in some OCS examples: *egyptěninъ* 'Egyptian', *izdrailitěninъ* 'Israelite', *somanitěnyni* 'Sunamite', *persěninъ* 'Persian' may go back to -*ěn*-formations only (before *j*, *t* would change into *št*, *s* into *š*), whereas *graždaninъ* 'city dweller' betrays the original suffix -*jān*- by its change *d* > *žd* (cf. *gradъ* 'town'). Both suffixes are known from non-Sl languages (cf. La *Rom-ān-us* 'Roman' and Li *roménas* 'Roman', *kalnénas* 'mountaineer'). In Sl both were widely used with possessive formations which had suffix -*j*-. Since *ě* after *j* coalesced with *a*, the two suffixes became confused, and *a* was transferred also to cases where there never had been *j* (cf. R *slavjanín*, not ⁺*slavljanin*); in many cases even such early records as OCS do not allow to establish whether a word had -*(j)ān*- or -*ěn*-, e.g. *agarěninъ* 'Hagar's descendant'. The whole development may be presented as follows:

1. -*jān*- || -*jěn*- ~ -*ěn*-
2. *ě* > *a* after *j*: -*jān*- || -*jān*- ~ -*ěn*-
3. -*jān*- || (rarely, in relics) -*ěn*-, with numerous fluctuations.

The data concerning the treatment of *ě* after hushing consonants and *j* in roots are less clear than those involving most suffixes. There are only few examples in which *ě* is reliably confirmed by non-Sl languages:

OCS *žalь* 'monument, remembrance' as compared to Li *gėlà* 'torture', OHG *quëlan* 'suffer' (but *quâla* 'torture');

US, Cz *šat* 'attire', Sk *šata*, P *szata*, U, Br *šáta* as borrowed from Germ **hētaz* (MHG *hâz* 'dress', *hœȝe* 'skirt, dress');

OCS *čajati* is reliably compared with OI *cakānás* 'desiring' and further (with another grade) Av *kayeiti* 'long for', La *cārus* 'dear', OHG *huore* 'whore', but its reduplicated form displays an unexpected variation *e* ~ *a*: U *čekáty* 'wait', P *czekać*, SC *čèkati*, M *čeka*, Bg dial *čékam* vs. US *čakać*, Sk *čakat'*, Bg *čákam*.

Other examples are questionable from various points of view. Some of the words with *a* after hushing consonants have no IE etymology known: R *žábry* 'gills', *šar* 'ball'. Other words do have IE cognates but an *ē* form is attested in no non-Sl languages:

R *žába* 'toad', cf. OPr *gabawo* 'toad', AS *quappa*;
U *žahá* 'thirst', cf. Li *dagà* 'harvest';
R *čad* 'smoke', cf. OPr *accodis* 'flue';
R *čájka* 'seagull', cf. OI *kākas* 'crow', OHG *kâ*;
R *čal* 'anchor cable', cf. Li *kálpa* 'cross bar' (in sledge);

R *čára* 'wineglass', cf. OI *carúṣ* 'boiler';
R *žar* 'heat, fever', cf. OI *háras* 'glowing heat';
P *szal* 'frenzy', cf. Gr χαλί-φρων 'thoughtless'.

As is seen in the examples, the IE correspondences for the most part are of *ă*-grade, not *ē*-grade. Some of the words cited have vowel alternations within Sl:

U *žahá*	: R *žeč'*
R *čad*	: R *kadít'*
R *žar*	: R *gorét'*
P *szal*	: R (*na*)*xál* 'impudent one'
Also R *úžas* 'horror'	: R *gasít'* 'extinguish'.

In all these subst the *ē*-grade is the least justified. One would expect ₒ*a*-grade or if lengthened, ₒ*ā* which would be reflected in Sl as *o*, resp. *a* (See 6, 3 and 5); neither of course would cause palatalization of the preceding velar.

Another series of examples are those in which the *ē*-grade is found in other IE languages but only in isolated forms and/or those for which generalization of the *ē*-grade is insufficiently motivated in Sl:

RChSl, SChSl *čapъ* 'bee', cf. Gr κηφήν 'drone';
Cz *čapati* 'catch', cf. La *capiō*, *cēpī* 'take';
OCS *časъ* 'period of time', cf. OPr *kīsman* 'time', Alb *kohë* 'time', both from **kēs-*;
OCS *čarъ* 'spell', cf. Av *čārā* 'means'; this may be a loan word from Irn however. As is well known, CS had many Irn loan words in the religious sphere.

In view of the uncertainty of most examples, one of them is particularly instructive: OCS *čaša* 'wine cup', cognate of OPr *kiosi* 'goblet'. It reminds one that *ča*, *ža*, *ša* groups in Sl may go back not only to *kē*, *gē*, *xē* but also to *kjā*/*kjō*, *gjā*/*gjō*, *xjā*/*xjō*. It is then no mere chance that among the parallels in the other IE languages so many forms have the *ā* or *ō*-grade, i.e. the grade which is expected normally in subst. One may surmise that Sl also had *ā* or *ō*-forms of these words inherited from IE. The innovation of Sl, at least in some of the words cited, was not the introduction and generalization of the *ē*-grade, but rather a nonphonetic, affective palatalization of velars. Palatalization is basically a supplemental articulation. Such articulations often are used in various languages as a means of affectivity.

This observation shows that extreme caution is necessary while dealing with Sl forms that have hushing consonants before *a*. If there are no reliable non-Sl IE cognates with *ē*-grade and if the words in question admit affective coloration, one has rather to suppose an affective palatalization in CS. Reexamined from this point of view the words cited above do to a great extent belong to those which easily admit affective treatment, cf. such notions as 'toad', 'thirst', 'smoke', 'heat', 'frenzy', 'catch'.

The presence and even predominance (in roots) of such instances does not cast doubt upon the statement about ₑ*ā* > *ā* after hushing consonants and *j*. This statement is sufficiently confirmed by examples of suffixes and by the few reliable examples of roots.

Prothetic *j* affected the initial *ě* of roots in the same way as *j* which belonged to the root, as seen in OCS *jadra* 'bosom', (*j*)*azъ* 'I' (more examples in 16,4).

Those roots, however, which were often used with prefixes, i. e. without prothetic *j*, preserved *ě* without change in those forms; an interplay of *ě*-forms and *ja*-forms was inevitable. In that root which was used particularly often with various prefixes, OCS *jasti* 'eat', the *ě*-form eventually prevailed in most Sl languages: R *est'*, etc. (See 16,4).

In endings, it is possible that many *jā*-stems go back to (*j*)*ē*-stems, and merged with the original *jā*-stems because *ě* lost its onglide *ₑ* after *j*. Cf. OCS *zemlja* 'earth' as compared to Li *žẽmė*, Le *zeme*, OPr *same*. This type of subst is found in La forms of the type *spēc-iē-s* 'look', *pernic-iē-s* 'destruction'. However, the parallels of this type in OI and Gr are not quite the same and the whole problem is still at issue.

The chronology of the change *ₑā* > *ā* after hushing consonants and *j* is questionable. The most plausible approach would be to ascribe this development to the time between the beginning of the first palatalization of velars and the rise of $ě_2$ from *ₒai* (See 20, 1). The reflexes of velars preceding this new *ě* which also were palatalized (into *c'*, *ʒ'*, *s'*/*ś*. See 21,1) caused no changes in the structure of *ě*; cf. OCS *cělъ* 'whole', *ʒělo* 'very', etc. The two palatalizations are not quite commensurable, but the treatment of *ě* in the second palatalization still implies that by that time probably the absorption of its on-glide after the reflexes of the first palatalization was no longer operating.

As the first palatalization of velars is attributed to the fifth – sixth century (See section 3) and the rise of $ě_2$ and the second palatalization to the sixth – seventh century (See 21, 7), this allows a span of about a century between the beginning of the first palatalization and the loss of the on-glide in *ₑā* after the reflexes of this palatalization.

Two minor facts confirm such an interval between the two latter changes:

a) In some Sl loan words with *ě* Li already has a hushing consonant but *ě* is still rendered as *e* (*ė*), and not as *a*: *čẽsas* 'time', *čẽrai* 'spell', *šẽstoti* 'roam', *želẽti* 'grudge' (Cf. Br *čas*, *čáry*, *šástac'* 'rustle', *žálicca* 'complain'). Le renders Sl *žālь* (< *$g^{u}ēl$-) as *žęl* 'pity'. Obviously some words of this type penetrated into Li and Le at the time of early (E)Sl-Li-Le contacts and set the standard for rendition of *ě* after hushing consonants. Cf. also Fr *sääli* 'sympathy' (OCS *žalь*);

b) Cz *šat* 'clothes' cited above as based on Germ **hētaz* reveals by its geography that it was not a CS borrowing but a local one made in Bohemia: the word spread to P from Cz and from these to U. Such a locally limited borrowing could hardly have occurred before the sixth century; if so it is significant that Germ *ē*, which is ordinarily rendered as *ě*, is represented by *a*.

Thus the loss of the on-glide of *ₑā* after hushing consonants and *j* was not a part of the first palatalization of velars, but it probably followed soon after, within approximately a century.

Turning to the reflexes of *ₑă* (*e*) one must note that although it did not regularly change into *a* after hushing consonants and *j*, there are scattered examples of such a change which are still observed in individual Sl languages.

Some examples of this treatment of *e* are U *časnýk* 'garlic' vs. R *česnók*; Cz

žaludek 'stomach' vs. SC *žèludac*; Cz dial (SW) *čalo* 'forehead', *včala* 'bee' vs. Cz *čelo*, *včela*; Sk *škľabiť sa* 'grin' vs. Cz *šklebiti*; possibly R *Seližárovka*, river-name, from Fe (Est) *Särgjärv*; and some hypercorrect *e*-forms where *a* is expected: Sn *čekàn* 'poleaxe', Bg *čékan* 'hammer' vs. Sk *čakan* 'hoe', SC *čàkanac* 'hammer', while P vacillates between *czakan* and *czekan* 'hoe', Cz *čakan* ~ *čekan* 'pickaxe' (all from Tu, cf. Čagat. Kirg. *čakan* 'battleaxe'); US *zerja* 'dawn' vs. R *zarjá*, etc[5].

These data bring one back to the question posed at the beginning of this section: why $_e$*ă* after palatals apparently did not lose its on-glide, like $_e$*ā*, so that its reflexes in the attested Sl languages do not differ from the reflexes of $_e$*ă* in other positions? This question may be answered by assuming that, in all probability, $_e$*ă* did follow the trend: it lost its on-glide $_e$ after palatals and became *ă*. However, later this allophonic variant of $_e$*a* was lost, possibly at the time of the change of $_o$*ă* into $_e$*ă* (hence later *e*) after palatal consonants, the so-called first delabialization of rounded vowels (to be discussed in chapter 18) or by the time of the final elimination of $_e$*ă* (becoming *e* or *o*. See 28, 1). In this respect *ă* differed from *ā* after palatals, which, being long, proved to be more stable. According to this approach, scattered examples of *a* instead of *e* in the attested Sl languages or dialects, inasmuch as they are old, are due to dialectal differences in the rate of this development: certain words with *a* from more conservative dialects penetrated into other dialects which by that time had completed the change '*ă* > '*e* in their own vocabulary[6].

Thus, the whole development after palatals may be summarized as follows (G is used as a symbol for velars, Č for palatals):

G'$_e$*ā* > Č'*ā*
G'$_e$*ă* > Č'*ă* > Č'*e*

7. Some effects of the first palatalization of velars before *ě*. While the first palatalization of velars in general increased the frequency of use but did not increase the functional load of palatals (for they were predictable as allophones of velars from the vowel which followed), the change of $_e$*ā* into *ā* after hushing consonants introduced instances of unpredictable opposition of palatal : velar before $_o$*ā* (and its allophone *ā*), e.g.

**čālu* 'anchor cable' : **k*$_o$*ālu* 'mud, faeces' (R *čal* : *kal*)
**čāp*$_o$*ātei* 'catch' : **k*$_o$*āp*$_o$*ātei* 'drip' (Cz *čapati* : *kapati*)
**čār*$_o$*ā* 'wine cup' : **k*$_o$*ār*$_o$*ā* 'punishment' (U *čára* : *kára*), etc.

Thus, even under the conditions of the first palatalization of velars alone (i.e. without taking into account the hushing consonants which developed from *j*-clusters) hushing consonants became full-fledged phonemes. While the first

[5] It is impossible to establish chronology of *a*/*e* in the words cited. In many of them it may be of a rahter recent date and have nothing to do with the original development of $_e$*ă*. Yet altogether these examples are too numerous to be glossed over or relegated entirely to later stages of development.

[6] What was said about $_e$*ă* also applies to $_e$*ẵ* before N. It never developed into *a*, as seen by the complete absence of *ϱ* after hushing consonants in Sl roots.

palatalization was at least partially a reaction to the excessive growth of the system of phonemes, it resulted in the strengthening of the system.

The functional load of hushing consonants was also enhanced by the fact that in certain cases they may have taken over the functions of vowel alternations. If there originally existed the relations

*k$_o$ā̆d- (in verb) : *k$_e$ā̆d- (in subst),
*g$_o$ā̆r- (in verb) : *g$_e$ā̆r- (in subst)

(See the reservations in section 6) they were replaced by *k$_o$ā̆d- : *čā̆d-, *g$_o$ā̆r- : *žā̆r- (R *kadít'* : *čad*, (*gorét'*) : *žar*), with the same vowel phoneme but different consonants.

In general, the first palatalization of velars introduced consonantal alternation into CS paradigms, both nominal (nom sg : voc sg in masc *o*-stems, e.g. OCS *bogъ*, *duxъ*, *rokъ* : *bože*, *duše*, *roče*) and verbal (1 sg m$_o$ag$_o$aN : 2 sg m$_o$ažeš-, cf. OCS *mogǫ* : *možeši*).

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18. FIRST DELABIALIZATION OF ROUNDED VOWELS

1. General statement. 2. Examples. 3. Deviations in the position before nasal consonants. 4. Chronology and historical background. 5. Conditions and effects.

1. The formation of palatal and palatalized consonants which resulted from the simplification of *j*-clusters and the first palatalization of velars was followed by delabialization of rounded vowels after all palatal(ized) consonants. First $_{o}a$ changed into $_{e}a$ (subsequently *e*), and $_{o}\bar{a}$ probably into $\bar{a}$, also as first components of diphthongs; later *u* changed into *ĭ* and *ū* into *ī*. For certain complications in our evidence concerning nasal diphthongs see section 3.

These changes affecting rounded vowels, albeit not simultaneous, may all be included under the common designation of first delabialization of rounded vowels, because their conditions were identical; this does not apply to the subsequent delabializations, which proceeded under different conditions and with different effects. The first delabialization was but one in the series of changes leading to intrasyllabic harmony: palatal(ized) consonants used with unrounded vowels only, velars with rounded, but all consonants admitted before $\bar{a}$ ($_{o}\bar{a}$).

2. Examples. Examples of the change $_{o}\bar{a} > \bar{a}$ are indiscernible because in its later evolution every $_{o}\bar{a}$ became $\bar{a}$ (See 26,1). As to other vowels, the first delabialization is particularly obvious in suffixes and endings. A great many of them have been split into two variants (allomorphs) according to whether or not they were preceded by a palatal consonant. The following suffixes may be alluded to:[1]

OCS *dobljestь* 'valor', *gorjestь* 'bitterness', *tęžestь* 'weight', *bujestь* (spelled *buestь*) 'outrage' vs. *bъdrostь* 'vigilance', *prostostь* 'simplicity', etc.;

OCS *ništeta* 'misery', *sujeta* (spelled *sueta*) 'vanity' vs. *tixota* 'stillness', *velikota* 'largeness', etc.;

OCS *bližika* 'neighbor', *ǫžika* 'relative' vs. *vladyka* 'ruler';

OCS *dъždevъ* 'rain' (adj), *zmijevъ* (spelled *zmievъ*) 'snake's' vs. *gromovъ* 'thunder' (adj), *sъpasovъ* 'Savior's', etc.;

OCS *vračevati* 'cure, treat', *jutrьnjevati* 'apply early to someone' vs. *sъvědětelьstvovati* 'be witness', *běsьnovati* 'be possessed', etc.

In declension also quite a few endings split into two divergent forms, e. g. (OCS) nom sg *o*-stems masc *vlьkъ* 'wolf' vs. *konjь* 'horse' (both from IE **-os*); neut *krilo* 'wing' vs. *polje* 'field' (both from **-om*); loc sg *vlьcě* vs. *konji* (both from **-oi*); instr sg *vlьkomь* vs. *konjemь*; gen pl *vlьkъ* vs. *konjь* (both from **-om*); dat pl *vlьkomъ* vs. *konjemъ*; loc pl *vlьcěxъ* vs. *konjixъ* (both from **-oisu*); dat-instr du *vlьkoma* vs. *konjema*; in *ā*-stems dat-loc sg *ženě* 'woman' vs. *koži* 'skin' (both from **-ai*). It is because of the splitting of *ā*-stems into *ā* and *jā*-stems, on the one hand, and the

[1] For proper understanding of the examples it should be remembered that CS $_{e}a$ (*e*) in OCS is represented as *e*, $_{o}a$ as *o*, *ū* as *y*, *ŭ* as *ъ*, *ī* as *i*, *ĭ* as *ь*, $_{o}ai$ as *ě*, $_{e}ai$ as *i*, $_{o}au$ and $_{e}au$ as *u*.

phonetic changes of *ja, je*, on the other, that *jā*-stems presumably merged with *ē*-stems (See 17,6).

A split of this type is to be assumed also for *u*-stems (type OCS *synъ* 'son' vs. *dъždь* 'rain'); but *ju*-stems soon merged with *jo*-stems, although imposing their voc sg form in *'u* (< *-ₒau): OCS *vraču* 'physician'. Also in *ū*-stems emerged an *ī*-subtype, as established in **bučī*, gen sg **bučivₑa* (RChSl *bъčьvь* 'tub', Cz *bečva*, Sn *bečvà*, SC *bȁčva*, M *bočva*, Bg *bъ́čva*) from Germ **bukjô* (Swiss G *bücki* 'cask', AS *bûc* 'jug'); **dil'ī*, gen sg **dil'ivₑa* (RChSl *dьli* 'pitcher', Bg *délva*) from **diljū* (the root as in **dilg-* 'long'); **nićī*, gen sg **nićivₑa* (RChSl *nъštvy* 'kneading trough', etc. See the full set of correspondences in 14,5b).

In the nom pl masc of *o*-stems and in the pres tense paradigm levelings took place before the time of the earliest extant records of Sl, so that the delabialized versions generalized are found. Instead of the expected *konji* vs. **vlьcě* OCS has both *konji* and *vlьci* ending in *-i*. In the 1 pl pres one would expect *žьnjemъ* 'reap' vs. **pletomъ* 'plait, weave', but instead both *žьnjemъ* and *pletemъ* are found with the generalized ending (See also 20,4).

On the whole, the effect of the first delabialization of rounded vowels was detrimental to the traditional inflectional system. Certain declensional types were ousted, others subdivided. The alternation *e* : *o* in conjugational themes was largely eliminated because the new use of *e* clashed with the old one: phonetically conditioned distribution vs. morphologically conditioned alternations inherited from IE.

Instances of the first delabialization of ₒ*a* in roots are rare. One may cite the gen sg of the relative pron (OCS) *jego* as opposed to the gen sg *togo* 'that', although from the viewpoint of later Sl the roots were *j-* and *t-*.

The roots with *ŭ* are much better represented. The delabialization of *ū* is seen in:

**šūtₑai* > **šītₑai*. For the original *ū*-form see Li *siū́ti* 'sew', Le *šũt*, OPr *schuwikis* 'shoemaker', OI *syūman* 'seam', Gr κασσύω 'mend, cobble', La *suō*, Go *siujan*, Hi *šum(m)anza-* 'cord'; Sl forms with the reflexes of *ī* include: OCS *šiti* 'sew', R *šit'*, Br *šyc'*, U *šýty*, P *szyć*, LS *šyś*, US *šić*, Pb *sájə* (saye, 3 sg), Sk *šit'*, Cz, Sn *šíti*, SC *šȉti*, M *šie*, Bg *šíja*;

OCS *pljinǫti* 'spit' has *i* from *ū*, cf. the reflexes of *ŭ* and *u*-diphthongs in non-Sl IE languages: Li *spiáuti* 'spit', Le *spļaũt*, La *spuō*; the more widespread form in Sl (secondary, by analogy) is with *ĭ* from *ŭ*, as well attested in OCS *pljьvati*, P *plwać*; the same applies to Sn *klíniti* 'shred (corn)' in relation to ChSl *kljьvati* 'peck', P *klwać*, OCz *klvati*, M *kolva*, Bg *kəlvá* if they are cognates of Li *kliū́ti* 'catch hold'.

There are also a few loan words with *ū* > *ī*. A simple case is OCS *židovinъ* 'Jew', R, US, Sk, Cz *žid*, Br, U, LS *žyd*, P *żyd*, Sn *žìd*, SC *žȉd*, from a Balkan-Rom form with *ü* (It *giudeo* 'Jew'); in other instances it is necessary to reckon with an irregular palatalization of consonants in Sl, due to the interplay of dialects tending to dispalatalize certain consonants with others where palatalization was still preserved (See section 4). Three words might belong to this group:

OCS *Rimъ* 'Rome', R, Bg *Rim*, Br, U *Rym*, P *Rzym*, Sk *Rím*, Cz *Řím*, SC *Rîm* from Go *Rūma*, OHG *Rûma*;

P *krzyż* 'cross', Pb *kraįs* (in place-names), LS *kśica*, US *křiž*, Sk, Sn *kríž*, Cz *kříž*, SC *krîž* from Rom (Aquileia) **croge* (for another explanation see 26,6);

SChSl *loštika* 'lettuce', etc. (See 14,6), going back to La *lactūca*. But this example is uncertain since fluctuation between *kt* and *kt'* is rather unusual (unlike the situation with *r* and *r'*). The word rather goes back to Rom dialects with *u* changed into *ü*.

The delabialization of *ŭ* into *ĭ* (OCS *ь*) in roots is represented by the following examples: OCS *pljьvati* 'spit', etc., P *klwać* 'peck', etc., cited above;

OCS *šъvenъ* 'sewn', OR *šьvьcь* 'tailor, shoemaker', Br *šavéc*, U *švec'*, P *szewc*, Sk, Cz *švec*, Sn *šávac* representing the zero grade of the words cited above with *ū* grade (For the last word cf. Li *siuvė̃jas* 'tailor');

CS **jig₀a* (OCS *igo* 'yoke', R *ígo*, P *igo* [in alternation with *jugo* 'cross bar (in sledge)', going back to the diphthong-grade form], Pb *jaid'ŭ* [geidigi], Cz *jho*, Sn, Bg *ígo*) from **jugom* as represented in Li *jùngas*, OI *yugám*, Gr ζυγόν, La *iŭgum*, Go *juk*;

R *čvánnyj* 'boastful', U *čvan'kuvátyj*, SC *čvȇn* 'renounced' going back to **čiv-* < **kuv-*, with *č* from other forms like OCS *čuti* 'feel, hear' (with *u* from *eu*); cf. OI *kaviṣ* 'seer', Av *čəvīšī* 'hope for' (1 sg pret med);

SChSl *žьvati* (1 sg *žuju*) 'chew', US *žwać*, Sk *žvat'*, OCz *žvati*, from **g'u-* : **g'(i̯)eu-*. *ž* spread from the pres to the inf; consequently *ŭ* changed into *ĭ*.

The change *ŭ* > *ĭ* also encompassed *ŭ* preceding sonants, as developed in early CS (See 5, 1): R, U *šerst'* 'wool', Br *šėrsc'* related to Li *šiurkštùs* 'rough'. (Forms with *s-* in other Sl languages: SChSl *srъstь*, P *sierść*, Sk *srst'*, Cz *srst*, Sn *sȓst* either result from a later distant assimilation or continue an old variant without *j*: OHG *hursti* 'crested', Ir *carrach* 'scabby').

Here also belong OCS *istъ* 'real' if a cognate of La *iustus* 'correct, just' as well as the first component of compounds of the type P *Inowrocław*, OP *Inowlod*, SC *Inogošta*, place-names, SC *Inosav*, *Inoslav*, personal names, representing the root **jun-*, zero grade to **j₀aun-* 'young' (OCS *junъ*).

3. Deviations in the position before nasal consonants. The first delabialization of rounded vowels is not consistently represented in the attested Sl languages when the vowel was followed by a nasal consonant in the same syllable. In certain cases there is no evidence of the delabialization at all.

In roots, *ę* (OCS *ę* and its correspondences in the other Sl languages) is found as expected, with one possible exception: the word for savory 'Sabureia gortensis' is attested with twofold reflexes: R, U *čabér*, Br *čabór* reflect *ę*; SC *čúbar*, Cz *čubr* (along with *čabr*) possibly point to *ǫ*; P *cząbr* is ambiguous. The variations can go back to a dialectal difference in the treatment of ₀aN in CS, some dialects changing it into ₑaN after hushing consonants and other retaining it unchanged (in this case the hushing consonant would have been transferred from another grade of alternation, attested, e.g., in R *čemeríca* 'hellebore', etc.). But it is also possible that the variations go back to divergent IE forms with *e* and *o*-grades (Cf. OI *camarikas* 'mountain ebony' vs. *kamalam* 'lotus'). Finally, in such an isolated word blendings are conceivable (Cf. irregular *čúber* in Bg: *ę*- form would give in Bg ⁺*čeber*, *ǫ*-form, ⁺*čəber*). In any event, this case is inconclusive.

In endings and suffixes the evidence is much clearer. -*ǫ* instead of the expected -*ę* occurs systematically in the acc sg of *jā*-stems (OCS *zemljǫ* 'earth' like *ženǫ* 'woman'), 1 sg pres (*znajǫ* 'know' like *vedǫ* 'lead'), 3 pl (*znajǫtъ* like *vedǫtъ*), nom sg fem, nom pl and oblique cases of the pres act part (*znajǫšti*, etc. like *vedǫšti*, etc.).

On the other hand, -*ę* and not -*ǫ* is found in the endings of the gen sg of *jā*-stems (OCS *zemlję* unlike *ženy*), acc pl of *jo*- and *jā*-stems (OCS *konję* 'horse', *zemlję* unlike *raby* 'slave', *ženy*), and nom sg masc and neut of act pres part (*znaję* unlike *vedy*[2]).

It is possible that in the endings of the acc sg of *jā*-stems and 1 sg pres the vowel could have preserved (or restored) its length. If so it was to be treated like any ₀*ā* after *j*, becoming *ā* (via ₑ*ā* and absorption of ₑ by *j*). Such an *ā*, an allophone of ₀*ā*, before N later gave *ǫ* phonetically. This may apply to the ending of the instr sg of *ā*-stems (OCS *nogojǫ* 'foot').

In all other cases the reason for dual treatment is to be sought in morphology.

[2] In NSl -*ě* rather than -*ę* is found in some of these endings. See 22,12.

It is to be assumed that originally ${}_{o}a$ was delabialized in all forms after palatal and palatalized consonants but that later *-o*N (*-ǫ*) was restored in some forms by analogy to *-ǫ* after other consonants. This is particularly clear in verbal forms: *-ǫ* is generalized in 3 pl of third class verbs. In the pres act part after palatals and palatalized *-ǫ* is generalized in all forms except in the nom sg masc and neut, because in this form after non-palatal(ized) consonants *-y* prevailed:

OCS	*vedǫšti*, nom sg fem	**znajęšti > znajǫšti*
	vedǫšta, gen sg masc and neut	**znajęšta > znajǫšta*
but	*vedy*, nom sg masc and neut	*znaję* (with *ę* unchanged).

On the other hand, in the acc pl of *jā*-stems *-ę* has been preserved, probably because it spread from here to the nom pl (OCS *zemlję*, both nom and acc pl) and so became more firmly established. Supported by *jā*-stems it has also been spared in the acc pl of *jo*-stems. The form of the gen sg of *jā*-stems was reinforced by its identity with nom-acc pl (as the single form *ženy*, in *ā*-stems, occurred in the three cases, so *zemlję* also was used for all three). The distribution of *-ǫ* and *-ę* endings was stabilized in OCS so that virtually no fluctuations are found, although they may be posited for the preceding period of time.

Thus, in spite of deviations in the reflexes of the vowels supposed to have undergone the first delabialization as attested in the earliest records of Sl there is no reason to assume that from the very outset the CS treatment of ${}_{o}a$ after palatal or palatalized consonants depended on whether or not it was followed by a nasal consonant.

4. Chronology and historical background. From the fact that the first delabialization of *ŭ* operated in loan words taken from Balkan Rom (OCS *židъ*) and Rom (Cz *kříž*), as shown in section 2, it may be inferred that it took place not earlier than the sixth century. On the other hand, Sl **jig${}_{o}a$* 'yoke' in the form of oblique cases (SChSl gen sg *ižese*, Sn *iżẹse* ~ *igẹse*) has been borrowed by Fi, where the form *ies* shows that at the time of the borrowing *ŭ* had changed into *ĭ*. This is to say that at the time of first Sl-Fi contacts, in the seventh-eighth centuries, the first delabialization of *ŭ* was completed.

Evidence of this kind is lacking for the change ${}_{o}a > {}_{e}a$. As shown in section 2, this change is attested primarily in suffixes and endings which usually are not borrowed. On logical grounds, the first delabialization of ${}_{o}a$ is considered by most scholars to be simultaneous with that of *ŭ*: in both cases the reasons for the treatment of rounded vowels and the treatment itself were the same. Yet careful scrutiny of the relative chronology reveals that ${}_{o}\breve{a}$ after palatal and palatalized consonants was delabialized sooner than *ŭ*. Consequently, two separate stages of the first delabialization are to be posited.

The considerations behind the above statement are as follows. The so-called progressive palatalization of velars (See 23,2) did not occur in the words which have *i* from *u* (Cf. OCS *igo* 'yoke', *ǫžika* 'relative' with *g*, *k* unchanged). Manifestly *u* changed into *i* after the progressive palatalization of velars.

On the other hand, the first delabialization of ${}_{o}a$ took place before ${}_{o}ai$ changed into *ě* (See 20, 1), since ${}_{o}ai$ yielded not *ě* but *i* after palatals; cf. OCS *těxъ* 'those' (gen pl) from **t${}_{o}$aix-* but *(j)ixъ* 'they' (gen pl) from **j${}_{o}$aix-*. However, after *ě* from ${}_{o}ai$ the progressive palatalization of velars did not occur, cf. OCS *rěka* 'river', *utěxa* 'comfort' (<**r${}_{o}$aik-*, **${}_{o}$aut${}_{o}$aix-*). It must be concluded that

monophthongization of ${}_{o}ai$ into *ě* preceded the progressive palatalization of velars; the more so the first delabialization of ${}_{o}a$ which, consequently, was antecedent to both. Thus, the following sequence of changes might be established:

1. First delabialization of ${}_{o}a$;
2. Monophthongization of ${}_{o}ai > ě$, ${}_{e}ai > i$;
3. Progressive palatalization of velars;
4. First delabialization of *ŭ*.

The earlier delabialization of ${}_{o}a$ than of *ŭ* was phonetically motivated. In ${}_{o}a$ it was only the on-glide which was rounded and the change involved it alone. In the case of *ŭ* the whole vowel was rounded and, consequently, had greater resistance. However, there is no reason to assume that a long time elapsed between the two delabializational changes. This period in the development of CS was one of fast changes following close on each other's heels.

The historical background of these rapid changes is found in the impressive migrations of the Sl tribes, which during a relatively short time spread up to and beyond the Elbe in the West. to the very point of the Balkan peninsula in the South and to the Gulf of Finland and farther in the North. The Slavdom was in a stage of fermentation and profound upheavals, and was on the move to a great extent. Despite seemingly prohibitive distances, linguistic changes generally spread to all parts of the huge area conquered, subdued and/or settled by the Slavs, many tribes of which were allied to, or subdued by, various Alt tribes. The striking ease of diffusion in linguistic development, which seems incomprehensible at first glance, resulted partly from a parallelism in development arising from common background, language structure and evolutionary tendencies. To a certain degree these were independent but converging developments.

On the other hand, one must not underestimate the lively communication which still existed at that time between the Sl tribes, if not among the remote tribes of the extreme north and south, east and west, then at least through a chain, each tribe communicating actively and constantly with the neighboring tribes and the latter in turn with their neighbors and so forth. Furthermore, much overlapping of population is to be presumed, when a tribe from a central Sl territory set out for conquest of non-Sl territories, moving through the areas then populated by other Sl tribes.

An indirect evidence of the complexity and activity of inter-Sl communications is given by the spread of the loan words (OCS) *Rimъ* and (Cz) *kříž* (See section 2). In these words *i* can be accounted for only if one assumes that the words were first borrowed by some Sl dialects which were losing *r*'; other dialects which still preserved the distinction of *r*' vs. *r* took the words over from the "hard *r*" dialects and, being "aware" of a rule that *r* of those dialects in many instances corresponded to *r*' of their own dialects, substituted their *r*' for *r* of their neighbors. Later, apparently, the lending dialects were engulfed or at least deeply influenced by the borrowing ones. For this reason no Sl dialects

with the forms ⁺*Rūm*, ⁺*krūž* have survived, as one would expect if the lending "hard *r*" dialects had preserved their identity. This is, then, a linguistic proof of an historical fact, that later waves of Sl migrations and invasions often submerged the preceding waves.

5. Conditions and effects. The first delabialization of rounded vowels was but another link in the chain of developments tending toward the implementation of the principle of intrasyllabic harmony. Together with the first palatalization of velars, it resulted in a simple rule of distribution: no rounded vowels after palatal and palatalized consonants; on the other hand, as the result of the first palatalization of velars another rule was operating: no velars before unrounded front vowels. Presented as a diagram:

Short vowels

No velars	*ĭ*	*ŭ*	No palatals
	${}_e\breve{a}$	${}_o\breve{a}$	

Long vowels

No velars	*ī*	*ū*	No palatals
	${}_e\bar{a}$	${}_o\bar{a}/\bar{a}$	

or if *ā*, actually an allophone of ${}_e\bar{a}$, is put separately:

No velars	*ī*	*ū*	No palatals
	${}_e\bar{a}$	${}_o\bar{a}$	

ā

Diphthongs are to be classified according to their first component.

This meant, on the one hand, that velars and palatals were in a complementary distribution, except before $({}_o)\bar{a}$, where both were admissible; and, on the other hand, that the character of the vowel to follow was partially predictable if the preceding consonant was velar or palatal(ized). If we take G as a symbol of velars and *č* as a symbol of palatal or palatalized consonants, we can state that syllables of the type *či* were admitted, but not G*i*; $\check{c}{}_e a$ but not $G{}_e a$; $G{}_o a$ but not $\check{c}{}_o a$; and G*u* but not *ču*; yet both $G{}_o\bar{a}$ and $\check{c}({}_o)\bar{a}$. Thus the phonemic status of palatals vs. velars was very much endangered. Except before $({}_o)\bar{a}$ palatals became allophones of velars. This was a manifestation of the tendency to reduce the number of phonemes, a trend that has never been completed. In the subsequent development of CS it came into conflict with the change of ${}_e au$ diphthongs into (*j*)*u* (See 19,4), which reintroduced the opposition of

palatals vs. velars before *u* and furthered the independence of the palatals[3].

In pointing to the internal factors which brouhgt about the first delabialization of vowels one should not forget the external influences. The first delabialization of rounded vowels in implementing the principle of intrasyllabic harmony brought the structure of Sl closer to the structure of Alt languages such as probably Hunnic, Bulgar, Avar (See 17,4). In quite a few living or attested Alt languages there occurred changes similar to Sl first delabialization, e. g. in Yakut *č*, *ǯ* change a following back vowel into a front one (Räsänen); the same is found in Cuman (Qoman) after *j*, *č*, *š* (von Gabain), etc.

The further spread of the principle of intrasyllabic harmony was detrimental to the Sl system of vowel alternations. The first delabialization introduced *i*-type vowels in the morphemes which alternated their vowels in *u*-series. This created a growing confusion of the two series paving the way for the forthcoming monophthongization of *u*-diphthongs (See 19,1). In addition, new alternations of *e* : *o* (*ₑa* : *ₒa*) were introduced, purely phonetic in motivation. This undermined the very core of the inherited system of alternations, notably the morphologically conditioned alternation *e* : *o* (*ₑa* : *ₒa*). Various series of alternations which have overlapped since that time began losing the obviousness of their motivations and were seriously imperiled.

In inflection, finally, the first delabialization of rounded vowels brought about a new complexity. The main paradigms split in two, so that the number of paradigms almost doubled. At the beginning, at least, the division was clearly motivated phonetically. Soon, however, the interplay of morphological and phonological factors obscured the motivation behind the distribution of the two sets of endings. After the loss of final consonants (See 15,1) this was the second grave blow to the inherited inflectional system. In conjugation, as shown in section 3, most doublets were gradually eliminated. In declension the innovations, basically, were to stay and the entire system to become opaque, abounding in doublets and liable to further reconstructions. In some Sl languages this has eventually led to the complete abolition of declension (M, Bg); in others the opposition of "hard" and "soft" types was gradually eliminated or strongly reduced (R, SC); in still others it was reinforced and became the crucial principle of the whole declension (Cz).

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[3] The opinion was often expressed that preservation of *ā* after palatal and palatalized consonants contradicted the trend toward intrasyllabic harmony (e.g. van Wijk). This is not so: the change of consonants (first palatalization of velars) involved front vowels; the change of vowels (first delabialization) involved rounded vowels. As *ā* is neither front nor rounded it underwent no changes in the changing relationships.

19. MONOPHTHONGIZATION OF *U*-DIPHTHONGS

1. General statement. 2. Identification. 3. Examples: *au, ou*. 4. Reflexes of *eu*. Examples. 5. Phonetic value of u_2. 6. Chronology. 7. Conditions of monophthongization. 8. Monophthongization of *u*-diphthongs and the system of vowel phonemes. 9. Monophthongization of *u*-diphthongs and the system of vocalic alternations. 10. Change in the status of *v*.

1. CS inherited from IE diphthongs with *u* as their second component: *au, ou, eu*. They may be called, conventionally, *u*-diphthongs. As a result of the general coalescence of *o* and *a* into ${}_{o}a$ (See 10,1) two of them, *au* and *ou* fell together into ${}_{o}au$. At the same time presumably *eu* > ${}_{e}au$, the opposition of the two being preserved. Subsequent to the first delabialization of rounded vowels (see 18,1) the *u*-diphthongs were monophthongized if followed by a consonant.

To judge by the final results, the second component of the *u*-diphthongs prevailed, assimilating the first component: both ${}_{o}au$ and ${}_{e}au$ eventually gave *ū*. The difference between the two was kept however: whereas ${}_{o}au$ gave *ū*, ${}_{e}au$ yielded *jū*, with *j* merging as usual (See 14,1) with the preceding consonant. (For some contradictory facts see section 4). Some scholars set up an intermediary stage of *ō* (closed *o*); whether this assumption is necessary and/or proved see section 5.

Before a vowel the *u*-monophthongs did not change the basic quality of their components: ${}_{o}a$ and ${}_{e}a$ were preserved as such, as was *u*; but *u* was treated as a consonant and reassigned to the following vowel, to form with it a syllable of the structure C + V. The principal change was the loss of cohesion between the components of the diphthong. The new status may be symbolized by the formulae $C{}_{o}au|V > C{}_{o}a|wV$ and $C{}_{e}au|V > C{}_{e}a|wV$, where C stands for any consonant, V for any vowel, *w* for *u* functioning as a consonant and the vertical line indicates the syllable boundary. The whole phenomenon is rather a decomposition of a diphthong than monophthongization. Its chronology is not the same as for the monophthongization in preconsonantal position. As the preservation of length in the prevocalic position shows (see 2, 3), the syllabic boundary came before *u* as early as the time of the loss of length in diphthongs, i.e. in very early CS at the latest.

2. Identification. All three *u*-diphthongs were kept apart in Gr and can be identified most easily from that language: *eu, ou* ([*u*]), *au*. In OI the diphthongs converges into *ō* if they were short and *āu* if they were long. Correspondingly Av reflects the short *u*-diphthongs as *ao*, the long ones as *āu*. In addition, *eu* may be identified in Indo-Irn if *ō* or *āu* is preceded by a hushing consonant. In some IE languages *ou* and *au* coalesced but *eu* is kept apart: OPr *au* vs. *eu*,

Li *au* vs. *iau*, OHG *au* vs. *iu*. In others *ou* and *eu* merged whereas *au* was retained separately: Arm *oy* vs. *aw*, La *ū* vs. *au*, Alb *e* vs. *a*. In Ir all three coalesced in *ua* (< *ō*).

In the Sl languages the resulting *u* proved to be one of the most conservative vowels. If one disregards minor changes conditioned mostly by the phonetic environment, it is basically retained in all Sl languages except Pb where it became diphthongized into *ai*, *oi* and *au*, and Cz where it was partly dipthongized into *ou* or *umlauted* into *i*.

3. Examples: *au*, *ou*. A. ***au***: OR *ui* 'mother's brother', U dial. *vuj*, P *wuj*, LS *hujk*, Pb *váujă* (wauga) 'mother's sister', Sk, Cz *ujec*, Sn *ûjec*, SC *ȕjāk*, M *vujko*, Bg *vújčo*, cf. Li *avýnas* 'uncle', OPr *avis*, La *avus* 'grandfather', Go *awô* 'grandmother', OIr *aue* 'grandson' (**au-i̯os*);

OCS *suxъ* 'dry', R *suxój*, Br *suxí*, U *suxýj*, P, LS *suchy*, Pb *sáuxə* (sauchga), Sk, Cz *suchý*, Sn, SC *sûh*, M *suv*, Bg *sux*, cf. Li *saũsas*, Le *sàuss*, OPr *sausai* (adv), OI *śoṣas* 'dryness', Gr αὖος 'dry', AS *séar*;

OCS *obuti* 'put on (boots)', R *obút'*, Br *abúć*, U *vzúty*, P *obuć*, LS *wobuś*, US *wobuć*, Sk *obut'*, Cz *obouti*, Sn *obúti*, SC *òbuti*, M *obuva*, Bg *obúja*, cf. Li *aũti*, Le *àut*, Av *aoϑra-* 'shoe', La *ex-uō* 'take off'.

B. ***ou***: *-gur* in R *balagúr* 'chatterer, joker'; in prevocalic position R *govorít'* 'talk', Br *havarýc'*, U *hovorýty*, Sk *hovorit'*, Cz *hovořiti*, Sn *govoríti*, SC *govòriti*, M *govori*, Bg *govórja*, cf. Li *gaũsti* 'sound', Le *gaura* 'chatter', OI *jóguvē* 'shout', *gavatē* 'sound', Gr γόος 'wailing';

OCS *gnusьnъ* 'polluted; disgusting', R *gnúsnyj* 'disgusting', Br *hnjúsny*, P *gnuśny*, Sk, Cz *hnusný*, Sn, SC *gnûs* 'disgust', M *gnas* 'repulsiveness', Bg *gnúsen* 'repulsive', cf. Gr χνοῦς 'chaff, foam', OIcel *gnauð* 'noise';

R *dur'* 'folly', Br *dur*, U *dúrist'*, cf. Gr θοῦρος 'dashing'.

Reflexes of *ou* are found in some endings of *u*-stems, namely: gen sg OCS *synu* 'son', cf. Li *sūnaũs*; loc sg OCS *synu*, cf. OI *sūnáu* (from *-ōu*); voc sg OCS *synu*, cf. Li *sūnaũ*, OI *sū́nō*, Go *sunau* (and *sunu*). The general ending of gen-loc du OCS *vlьku*, *ženu* also goes back to *-ou(s)*, cf. OI *sunvós*. In verbs *ou* is found in the suffix *-u-*, prevocalic *-ov-* as OCS *cěl-u-jǫ* : *cělovati* 'greet'.

In many instances the evidence is insufficient to establish whether Sl *u* continues *au* or *ou*[1], e.g.:

R, Br *kúkiš* 'fig', U *kúksa* 'mangled hand', LS, US *kokula* 'hook', Sn *skúčiti* 'bend', SC *kȕka* 'hook', M *kukačka*, Bg *kúka*, cf. Li *kaũkas* 'boil', OI *kučati* 'crooks', Go *hauhs* 'high';

R, Sk, Cz, Bg *um* 'mind', Sn *úm*, SC *ûm*, prevocalic OCS *av-iti* 'show', etc., cf. Li *aumuõ* 'mind';

prevocalic R, U *sová* 'owl', Br *savá*, P, LS, US *sowa*, Sk, Cz *sova*, Sn *sóva*, SC *sȍva*, cf. Li *šaũkti* 'shout', OBret *couann* 'owl'.

Further examples: OCS *glumъ* 'mockery', *drugъ* 'friend', (*u*)*buditi* 'wake', *ruda* 'ore', *duxъ* 'spirit', *kupьnъ* 'mutual', *gumьno* 'threshing floor', *uxo* 'ear', *turъ* 'aurochs', *usta* 'mouth', prefix *u-* 'away' as in *ukloniti sę* 'deviate'; R *dupló* 'hollow', *grúda* 'heap', *kujú* : *kovát'* 'forge', *lúnka* 'hole', P *Bug*, river-name, etc.

4. Reflexes of *eu*. Examples. The diphthong *eu* is reflected in the historical Sl languages as *ū*, but apparently with no consistency in the treatment of the

[1] Indirect evidence may be derived from possible alternations in the morpheme under scrutiny. Alternations with *eu*, *u* point to original *ou*. The lack of alternations, of course, does not necessarily presuppose *au*: alternation could have been lost later.

preceding consonant. In some instances it is palatalized, as under the influence of *j*. There are also fluctuations in some instances. Attempts were made to explain this by a difference in the developments of *eu* and *ēu*, the former yielding *ū* and the latter *ǖ* as reflected in the palatalization of the preceding consonant (Wiedemann, Mikkola, Weingart *et al.*); or by the influence of the next syllable: *ū* if there was a back vowel and *ǖ* if there was a front one (Zubatý, Korš, Endzelin, Vondrák, Vaillant *et al.*). Both explanations seem to fail to take into account the status of CS at that period and therefore are anachronistic. Long diphthongs no longer existed at that time (See 4,14), so that at best one could speak of diphthongs with RP; but it is inconceivable that RP could produce *j* before *ū*. As to the second explanation, CS at the time was characterized by strong autonomy of syllables, each of them ending in a vowel, and there is no reason to posit the influence of the following syllable on the preceding one; such phenomena began somewhat later (See 23,1). Last but not least, no facts confirm either explanation.

Statistically, the data available (with the exclusion of loan words) consist of more than twenty items with *jū* from *eu*, eight with *ū*, and four vacillating. Yet an examination of every instance shows that the only phonetic reflex of *eu* was *jū*, while all other forms are due to extra-phonetic factors and constitute deviations of a later date.

The examples with regular development are:

OCS *bljudǫ* 'guard', R *bljudú* – Gr πεύθομαι 'experience', Go *anabiudan* 'order'; *o*-grade in Li *baudžiù* 'urge' and possibly OI *bṓdhati* 'wake', Av *baoδaitē* 'apprehend';

R *brjúxo* 'belly', Br *brúxa*, P *brzuch*, LS, US *brjuch*, Cz *břich* – ON *briósk* 'cartilage'; zero grade in Go *brusts* 'breast',OIr *brú* 'belly';

R *žurít'* 'reprove', Br *žurýcca* 'grieve', U *žurýtysja*, Sn *žúriti* 'compel', SC *žúriti se* 'hurry up' – OI *ghōrás* 'frightening', Ir *gúre* 'painfulness', Go *gaurs* 'afflicted', all in *o*-grade;

OCS *kljeveta* 'slander', R *klevát'*, *kljujú* 'peck', P *kluć*, OLS *kluju* 'pick out', US *kluwać* 'banter', Cz *klíti* 'peck out', Sn *kljuváti* 'peck', SC *kljùvati*, M *kluva*, Bg *kəlvá* – Li *kliúti* 'hang', OHG *hliuning* 'sparrow';

OCS *kljusę* 'beast for yoke', OP *klusię* 'horse', Cz *klíse* 'foal', Sn *kljúse* 'jade', SC *kljúse* 'horse', Bg *kljusé* 'foal' – Li *klaũpti* 'kneel', Go *hlaupan* 'run', both in *o*-grade;

OCS *ljubъ* 'desired', R *ljubój* 'any', Br *ljúby*, U *ljúbyj* 'dear', P, LS, US *luby*, Cz *libý*, Sn *ljûb*, M *ljubi* 'kiss', Bg *ljúbe* ~ *líbe* 'beloved' – Li *liaupsė̃* 'song of praise', OI *lōbhas* 'desire', Go *liufs* 'dear';

OCS *ljudъ* 'people', R, Br, U *ljud*, P *lud*, LS *luźe* 'men', US *ludźo* Pb *l'aųdi* (lgaudi), Sk *l'udia*, Cz *lid* 'people', Sn *ljûd*, SC *ljûdi* 'men', M *luǵe*, Bg *ljúde* –Li *liáudis* 'people', Le *ļàudis* 'men', OI *rṓdhati* 'grow', Gr ἐλεύθερος 'free man', OHG *liut* 'people';

OCS *rjuti* 'roar', OR *rjuti*, OP *rzuć*, OCz *řúti*, Sn *rjúti* – OI *rắuti* 'roar', La *rūmor* 'noise', none with *e*-grade;

OCS *čudo* 'miracle', R, U, Bg *čúdo*, Br *čúda*, P *cud*, US *čwódo*, Sk *čud*, Sn *čúdo*, SC *čȕdo*, M *čudo* – Gr κῦδος 'glory', in lengthened zero grade;

OCS *čuti* 'perceive', R *čújat'*, Br *čuc'* 'hear', U *čúty*, P *czuć* 'feel', LS *cuś*, US *čuć*, Sk *čut'*, Cz *číti*, Sn *čúti* 'hear', SC *čȕti*, M *čue*, Bg *čúja* – OI *kavís* 'seer', Av *čəvīši* 'hope' (1 sg pret med), Gr κοέω (< *κοϝέω) 'notice', La *caveō* 'watch', AS *háwian* 'see' – none, except possibly Av, going back to *e*-grade;

OCS, OR *šui* 'left', Sn *šûj*, SC *šùvāk* 'left-hander' – OI *savyás* 'left', Av *haoya-*, Cym *asw.y* (< **adseuio-*) 'left'.

As further examples the following words may be cited with some degree of certainty: P *bluszcz* 'ivy', R *brjuzgá* 'grumbler', *čub* 'forelock', *čúč(elo)* 'scarecrow', Cz *klid* (OCz *kl'ud*) 'order, peace', R *ključ* 'key', SC *ljúpiti* 'drop the scales', *ljȕska* 'scales, shell', OCS *ljutъ* 'cruel', R *njúxat'*, P *pluskwa* 'bedbug', OR *rjutiti* 'throw', R dial. *rjúxa* 'pig', P *szczuć* 'hunt', R dial. *šuljáta* 'testicles', Bg *žúlja* 'cut', Cz *župa* 'district'. For details see etymological dictionaries.

As seen from the material cited, quite a few words with reflexes of *eu* in Sl have no *eu*-counterparts in the IE non-Sl languages (*žurít'*, *kljusę*, *rjuti*, *čudo*, *čuti*) or have also *ou* (*bljudǫ*). This clue is important for judging the deviating cases, which occur in three types of words:

A. Verbs and words derived from verbs:

OCS, OR *pluti* 'swim, sail', LS *pluwaś*, US *pluwać*, Sk *plut'*, Cz *plouti*, Sn *plúti* – OI *plávatē* 'swim', Gr πλέω 'sail', La *pluit* 'is raining', and *o*-grade in Li *pláuti* 'rinse', Le *plēvinât* 'move'; this grade is possibly found in pres. tense OCS *plovǫ*, etc.;

R, Br, U *skubú* 'skin, fleece' (1 sg), P, US *skubać*, LS *skubaś*, Cz *skubati*, Sn *skúbsti*, SC *skúpsti*, M *skubne*, Bg *skúbja* 'pluck' – Go *af-skiuban* 'reject', but zero grade in Li *skùbti* 'hurry up', both grades in OI *kṣúbhyati*, *kṣṓbhatē* 'stagger';

OCS *sluti*, *slovǫ* 'be known', Sk *sluti*, Cz *slouti*, Sn *slúti*, M *sluti* 'sense' – Gr κλέω 'glorify'; numerous forms with zero grade as Le *sluvêt* 'have reputation', OI *śrutás* 'known', La *clueō* 'am known', OHG *hlût* 'loud', etc.;

OCS *stružǫ* 'plane' (inf *strъgati*), OR *stružu* (inf *strъgati* ~ *strugati*), Br *struhác'*, U *struháty*, P *strugać*, LS *tšugaś*, US *truhać*, Sk *strúhat'*, Cz *strouhati*, Sn, SC *strúgati*, M *struže*, along with R *strogát'*, Sn *stŕgati*, Bg *strəgá*, in zero grade, – Gr στρεύγομαι 'be drained of strength', ON *striúka* 'stroke', etc.;

U *strúmin'* 'stream', P *strumień*, LS *tšumjeń*, US *trumjeń*, Cz *strumen*, Sn *strúmen* – Li dial. *sriaumė* 'stream', Gr ῥεῦμα, but other grades in Li *sravěti* 'flow quietly', ON *straumr* 'river', etc.

In all these roots *eu*, typical of *e*-grade, was in alternation with *o*-grade or zero grade. One alternant characterized the aor (inf) stem, another the pres, still another the perfect tense. This was a situation favorable to leveling. When, in addition, both *eu* and *ou* became *ū* and the difference was relegated to the preceding consonant, this became a unique case in the conjugational system. It is no surprise that it has been generally eliminated.

Whereas in the above instances *eu*-grade (i.e. virtually palatalization of the foregoing consonant) was eliminated completely, there are cases in which fluctuations still are at hand. They have been preserved in a few verbs by being transferred to syllables of *ry*-type. Under the conditions of vacillating *r* ~ *r'* the fluctuations obtained an additional, directly phonetic motivation:

R *rygát'* 'belch', LS *rygaś* vs. P *rzygać*, US *rihać*, Cz *říhati*[2] – Li *rúgti* 'belch' vs. *riáugėti* 'eruct', Gr ἐρεύγομαι 'throw up';

[2] The languages in which *r* and *r'* fell together are not cited.

R *rýkat'* 'roar', P *ryczeć*, US *ryčeć*, Sk *ryčat'*, Cz *ryčeti* – vs. OCS *rikati* – Li *rúkti*, Le *rûkt*, OHG *ruhen*. The words are cognates of OCS *rjuti* and, thus, *eu*-grade was not alien to the root.

The fluctuations *ry* ~ *ri* in these words go back to the fluctuations *rju* ~ *ru* from *reu* ~ *rou*. In that, these verbs can be matched with the group (OCS) *pluti*, *sluti*, etc., with the difference that in the latter the palatalization of the consonant was not supported phonetically and thus was lost. The original vacillation between palatalized and non-palatalized consonants in *pluti* however is still obvious in an isolated word whose connection with the verb *pluti* was loose and which therefore did not follow the leveling trend:

OR *pljuča* 'lungs', US *pluca*, Sk *pl'uca*, Cz *plíce*, Sn *pljúča* still preserve the palatalization, but US also has *pluca*, like OCS *plušta* 'intestines', P *pluca* 'lungs' (dial also *pluca*), LS *pluco*, Pb *pláụcă* (plautza), SC *plûća*.

B. Less numerous are words in which the irregularities in palatalization are due to affective factors. Two words may be cited here:

OCS *gnusьnъ* 'disgusting', etc. as quoted in section 3 – vs. Br *hnjúsny* 'disgusting', Cz *hnis* 'pus' (along with *hnus* 'disgust'), SC dial. *gnjûs* 'filth', in which the palatalization is manifestly secondary.

In the second word it is possible that the situation is reverse, and we are dealing with affective dispalatalization: RChSl *ludъ* 'dull', Cz, Bg *lud* 'fool', Sn, SC *lûd*, M *lud* 'crazy' – cf. Li *liũsti* 'grow sad', Go *liuts* 'hypocritical'. The Li form does not point to *eu* and least of all does OPr *laustineiti* 'humble' (2 pl. imp). The Sl word may easily go back to an *ou*-form[3].

C. Some geographic names comprise the third group, but are inconclusive. The tribe name Νευροί as mentioned by Herodotus (fifth century B.C.) possibly denoting the Slavs, is thought to be found in Br river-name *Nur* (OR *Nurъ*), tributary of the *Buh*. The connection is, needless to say, highly hypothetical. And even if the words are cognate the river-name may have an underlying form with *o*-grade.

The river-names Br *Bruč*, tributary of the Berezina, and U *Zbruč*, tributary of the Dniester, were compared with Li *briáutis* 'push forward violently', Gr φρέ(Ϝ)ᾱρ 'well', Arm. *albiur*. The evidence is of no value because in both Br and WU *r'* is dispalatalized.

To sum up, *eu* yields *jū* in all positions, regardless of either intonation or phonetic environment. In verbs where *eu* alternated with *u* or *ou* a strong tendency arose to eliminate the alternation when it was transferred from the vowels to the consonants, and only isolated forms still preserve the palatalized consonants, pointing to original *eu*. In a few affective words there was palatalization or dispalatalization of consonants before the reflexes of *eu*. These cases are irrelevant for conclusions about the development of *eu*, although some of these changes occurred in the late CS period.

[3] R *djúžij* 'robust' vs. Br *dúžy*, U *dúžyj*, P *duży* as compared to Li *daũg* 'much', Le *daũdz*, Go *daug* 'worth' also has an affective palatalization, but of a later date than the monophthongization of *eu*. Otherwise *d* + *ju* would yield in R +*žužij*. Cf. *šuj* above.

5. Phonetic value of u_2. CS had $\bar{u}$ mainly inherited from IE before ${}_oau$, ${}_eau$ gave a new $\bar{u}$. As the two never coalesced it is obvious that their phonetic value was different. We shall denote the old $\bar{u}$ simply as $\bar{u}$ or $\bar{u}_1$, the new as $\bar{u}_2$. One cannot reconstruct the nuances of pronunciation of sounds used in CS, but to shed at least some light on the problem there are certain indications derived from the further evolution of the two vowels and from the evidence drawn from the substitution of the two vowels in loan words.

The main differences in the developments of $\bar{u}_1$ and $\bar{u}_2$ are that:

$\bar{u}_1$, if initial, took a prothetic *v*- (See 16,2), $\bar{u}_2$ did not;

$\bar{u}_1$ changed into $\bar{\imath}$ after palatals (See 18,2), $\bar{u}_2$ was not influenced by palatals;

in its ultimate development $\bar{u}_1$ yielded *y*, i.e. became completely or partially (if one assumes it was a diphthong *ui* – see 26, 3) delabialized but had a patently back articulation whereas $\bar{u}_2$ basically has been preserved as a rounded monophthong in the Sl languages of historical time.

The conclusion may be drawn that $\bar{u}_2$ was a less back and probably less rounded vowel than $\bar{u}_1$. It is because of its relatively front articulation that $\bar{u}_2$ tolerated preceding palatal consonants, and because of its more moderate rounding that it did not take prothetic *v*-. When later $\bar{u}_1$ became *y* and lost its rounding, it still did not converge with $\bar{u}_2$ because of the former's farther back (and possibly lower) articulation.

Sl loan words borrowed from Germ confirm these conclusions. It is typical that $\bar{u}_1$ renders Germ $\bar{u}$ while $\bar{u}_2$ renders Germ $\bar{o}$:

R, Br, U, P *tyn* 'paling', Cz *týn* 'hedge', Sn *tìn* 'wall', SC *tȉn* 'partition (wall)' – from Germ, see AS *tûn* 'hedge', ON *tún* 'farmstead';

OCS *xyzъ* 'chamber' from Germ, see Go, OHG *hûs* 'house';

OCS *myto* 'reward, gift', U, Cz *mýto* 'toll', P, LS, US, Sk *myto*, Pb *mọ́i̯tə* (moite) 'reward', Sn, SC *míto* 'bribery', M *mito* 'toll', Bg *míto* – from OHG *mûta* 'toll';

and, on the other hand:

R, Br, U, P, LS, US, Sk, Cz, Bg *buk* 'beech', Sn *búkev*, SC *bȕk*, M *buka* – from Germ, see Go *bōka*, ON *bók*, AS *bôka*;

SChSl *plugъ* 'plough', R, Bg *plug*, Br, U, Sk, Cz *pluh*, P, LS *plug*, US *pluh*, Pb *plåu̯zə* (3 sg), Sn *plùg*, SC *plȕg* – from Germ, see AS *plóg*, ON *plógr*, OHG *pfluog*;

R, Br, U *Dunáj* 'Danube', P, Sk, Cz, Sn *Dunaj*, SC *Dȕnav*, Bg *Dúnav* - from Go (or Daco-Moesian ?) **Dōnawi*;

RChSl *murinъ* 'Ethiop', U *múryn* 'Negro', P *murzyn*, Cz *mouřenín* – from OHG *môr* 'Moor';

also R *dúma* 'thought', U *dúma* 'epic folksong', Sk *duma* 'thought', M *duma* 'remember', Bg *dúma* 'word' – from Germ, see Go *dōms* 'judgment'.

The same substitution of $\bar{u}_2$ for $\bar{o}$ is found in loan words from Balkan La and MGr, as Cz *gdoule* 'quince', M *dunja*, etc., from Balkan La *cydōnea*; OCS *rusaliję* 'Pentecost' from Balkan La *rosālia*; R *kanún* 'eve' from Gr κανών 'rod; rule'; Sn (Istria) and SC (Dalm) *mošûn* 'shepherd's winter hut in mountains' from La **mansionem*, etc. But the value of these substitutions is less because in various Balkan languages and dialects $\bar{o}$ was very close to $\bar{u}$, particularly if unstressed. Besides that there were instances of $\bar{u}_1$ rendering Balkan Romance $\bar{o}$ (See 26, 4).

More reliable are reciprocal borrowings of Sl and Fi where we find Sl *u* rendering an *o*-tinged *u* of Fi (e.g. OR *Sumь* 'Finland' from Fi *Suomi*, OFi **Sōmi*, Est *Soome(maa)*; *Rusь* 'Russia' from Fi *Ruotsi* 'Sweden') and doublets with $\bar{o}$ and $\bar{u}$ in some Fi loan words of Sl origin, e.g. Est *poost* 'devastation' – *puusta* 'desert', from Sl *pustъ* 'empty'.

On the basis of these data it was suggested that what is denoted here as $\bar{u}_2$ actually was $\bar{o}$. This is not impossible but not very likely if one takes into account the state of CS at the time of the monophthongization of its *u*-diphthongs. The monophthongization arose from the tendency to end syllables on the highest point in the wave of sonority. It made the final part of the syllable the most prominent, in this case *u*. The monophthongization in CS did not proceed as, e.g., in French by mutual assimilation of the two components, *a* and *u*, resulting in *ō*, but by strengthening of *u* which then absorbed the first component of the diphthong. It is much more likely under these conditions that *u*-diphthongs monophthongized into an *ū*-type sound.

The presence of two *ū*-type phonemes is unusual from the viewpoint of modern Sl standard languages, but it is known in Sl dialects. It is reported, for example, from the Těšin area, where the "second" *u* is denoted by *ů* (*kohůt* 'rooster', *hůśle* 'violin', etc.), and occurs widely in U dialects of Transcarpathia where it is reported from the area of Xust and from another area, north and east of Užhorod as well as north of the Carpathians (the Lemkian dialects of Wielopole and Łukowe). Here it is undoubtedly phonemic, cf. such minimal pairs as *pup* 'navel' vs. *pûp* 'priest', *pud* 'pood, a measure of weight' vs. *pûd* 'loft; foundation'. Historically, *u* stems from CS $\bar{u}_2$ and *ǫ*, *û* from *o* and *e*. The articulation of *u* is characterized as high-back-wide, that of *û* as high-back-narrow.

The existence of two *ū*-type phonemes is to be accepted for the whole MU in its southern part. In the texts of the period *u* systematically renders the reflexes of *o* and *e* in the newly closed syllables. Later this *u* changed into *i*, but not the old *u* (from $\bar{u}_2$ and *ǫ*), thus the two *u*-vowels were kept strictly apart.

Without attempting a too precise definition of the phonetic value of $\bar{u}_2$ in CS we have to accept that after the monophthongization of *u*-diphthongs CS possessed two phonemes of the *ū*-type treated differently in all respects and never confused. In this CS is reminiscent of MSU although historically U new *u* had nothing to do with CS $\bar{u}_2$.

6. Chronology. The relative chronology of the monophthongization of *u*-diphthongs fits neatly into the time of the elimination of *j*-clusters (See 14,1) but after the completion of the first delabialization of $\bar{u}_1$ (See 18,4). The first is evident from the treatment of (OCS) *šui* 'left' < *seu-* as quoted in section 4. After *eu* > *jū* the cluster *s* + *j* changed into *š*. (Examples with original velars as *čudo* from **keud-*, *čuti* from **keu-*, etc., also cited in section 4, are inconclusive because velars would have yielded palatals before *eu* even if there was no *j*, according to the rules of the first palatalization).

The second follows from the fact that *ū* from a diphthong does not follow the rules of the first delabialization, e.g.:

RChSl *šut* 'jester', R *šut*; *šústryj* 'smart', Sn *šûtec* 'milksop', M *šut* 'stupid', Bg *všutjávam* 'behave like a child' – cf. Li *siaũsti* 'rove, romp', Le *šaũls* 'fool';

R *šúrin* 'wife's brother', OP *szurzy*, Sn *šurják*, SC *šūra*, M *šura*, Bg *šúrej* – from **siaur-* (another grade in OI *syālás*) –

both without any change of *u* into *i*. The same applies to the endings, dat

sg of *jo*-stems (OCS *konju*), gen-loc du of *jo-* and *jā*-stems (*konju, zemlju*), with -$\bar{u}_2$ not delabialized.

The transition *eu* > *jū*, however, followed very close upon the first delabialization and it is even possible that dialectally they overlapped. M *libe* 'darling' alongside *ljubi* 'love', Bg *líbja* 'love; court' alongside *ljúbja* may indicate the existence of such dialects. The confusion of the conjunctions *ljubo* ~ *libo* 'or' in both OCS and OR gives indirect testimony to the same fact. The conjunction *libo* is a compound consisting of *li* + *bo*. But under the influence of the presumed dublets *lib-* ~ *ljub-* in the root 'love' *u* spread to this conjunction, too. A greater age for these phenomena may be established by place-names of Sl origin in S Greece, e.g. Λιμποβίσι < **Ljubovičĭ* in Arcadia, Λιμπόχοβα < **Ljuboxovo* in Laconia (Gr μπ = [b]).

In absolute chronology these considerations would point to the sixth or seventh century. The change of *sj* into *š*, as stated in 14,6, occurred not sooner than the fifth or sixth century; the first delabialization of *ū* was in 18,4 ascribed to the sixth or seventh century. Thus, the sixth century seems the most plausible time for the monophthongization of *u*-diphthongs especially if the evidence of Sl relations with contiguous peoples is taken into account. Three considerations are particularly important:

A. Sl words and place-names in Gr no longer bear evidence of Sl *u*-diphthongs, e.g. κουνάδι 'marten', Στρούζα, place-name in Arcadia and elsewhere, from Sl (R) *kuníca*, **Struzia*, etc. It is also important to note that in place-names borrowed into Sl probably at the time of the earliest contacts with the population of the Balkan peninsula *u*-diphthongs are treated as vowel + *v*, e.g. SC *Tovrljan*, river-name (in Toplica area, west of Niš) < **Tauriana*, *Lovret*, name of a sector in Split, from *Lauretum*, *Lavsa* ~ *Lavca*, from (*Lapides*) *lausiae*, island-name (in the archipelago of Zadar and Šibenik), etc.

This is confirmed by the indirect evidence, cited in section 5, notably that since the sixth century u_2 was substituted for foreign *ō*, the simplest proof that at that time $\bar{u}_2$ existed rather than a diphthong.

B. Rm, which as a rule shared the sound changes of CS at that time provided they did not contradict the developmental tendencies of Rm, did not participate in the monophthongization of *u*-diphthongs so that, e.g. La *aurum*, *audit* are still represented in Rm by forms with diphthongs: *aur* 'gold', *aude* 'hear' (3 sg).

C. Balt (Li) *au*-diphthongs in the place-names of N Belorussia are represented in Sl with *u*, e.g. Br *Lučasá*, R *Lučesá*, river-name (regions of Vitebsk and Smolensk) from Li *Laukesà*, Br *Húja*, tributary of the Nemunas, from Balt (Li *Gaujà*). The inference is that when the Slavs invaded the Balkans the monophthongization of *u*-diphthongs was completed or in the process of completion but that at the time of their first contacts with the Balts in Northern Belorussia they still had *u*-diphthongs. Hence the monophthongization of *u*-diphthongs is to be placed in the sixth century, probably the early part.

This assumption agrees with the fact that *u*-diphthongs in loan words from Go are rendered by *u* in Sl: being borrowed before the monophthongization they naturally were treated in the same manner as native words:

OCS *kupiti* 'buy', from Go *kaupōn* 'trade' (or **kaupjan*, cf. OEng *cýpan*);
OCS *(is)kusiti* 'try', from Go *kausjan* 'taste, try';
OCS *luk* 'garlic', from Germ *lauka-* (ON *laukr*, OHG *louh* 'leek');
RChSl *userjazъ* 'earring', from Go **ausihriggs* 'earring'.

There are no indications as to whether or not ${}_{o}au$ and ${}_{e}au$-diphthongs were monophthongized simultaneously. Theoretically, it is conceivable that ${}_{o}au$ changed into *ū* sooner because it was more homogeneous in its make-up, possibly while the first delabialization was still operating; but this assumption can be neither confirmed nor refuted.

7. Conditions of the monophthongization. The way was prepared for the monophthongization of *u*-diphthongs (as well as of other diphthongs, see chapters 20, 22) by the preceding phonetic and phonemic development of CS.

Diphthongs of descending type were incompatible with the general trend to open syllables with rising sonority. In syllables containing an *u*-diphthong the peak of sonority fell on the center of the syllable, not on its final component. When, in accordance with this tendency the peak was moved to the final component, *u*, the presence of the first component was no longer motivated, a situation which could lead either to a split into two syllables or, as actually happened, to the assimilation of the first component by the second. In the case of ${}_{e}au$ the change of the on-glide ${}_{e}$ into consonantal *j* testifies to the same. While the ${}_{o}a$-component became completely assimilated to *u*, the ${}_{e}$-component, too far away articulatorily from *u* to be assimilated, became dissolved eventually in the foregoing consonant.

Other factors also contributed to monophthongization of *u*-diphthongs. The first position in which *u*-diphthongs were eliminated was before a vowel, *u* being reassigned as a consonant to the next syllable. The consequences of this were decrease in the frequency of *u*-diphthongs and when the typical syllable structure became CV or CCV the destruction of many alternation series. For example, the connection between OCS *ostrovъ* 'island' on the one hand and *struja* 'jet, stream' on the other, or between R *ževát'* 'chew' and *gúlja* 'bump', hardly exists on a synchronical level, whereas no doubt it was quite obvious when *ostrovъ* and *struja*, *ževát'* and *gúlja* had the same diphthong ${}_{o}au$ alternating with ${}_{e}au$. Vowel alternations in the *u*-series were further obscured when $\bar{u}_1$ became *ī* and *u* became *i* after palatal consonants as a result of the first delabialization, as pointed out in 18,5. That is, by the time of the monophthongization of *u*-diphthongs the system of vocalic alternations to which they belonged had deteriorated and was unable to oppose the phonetic tendency toward the abolition of the *u*-diphthongs.

Prompted by the whole pattern of CS of that time as molded by the predominant phonetic trends, and not supported by any morphological factors opposing its decline, the system of *u*-diphthongs collapsed easily.

It is noteworthy that the Alt languages with which the Slavs were in close contact at the time presumably did not have any *u*-diphthongs.

8. Monophthongization of *u*-diphthongs and the system of vowel phonemes. The system of vowel phonemes which had been stabilized for several centuries after the alteration of $\bar{e}$ into ${}_e\bar{a}$ ($\check{e}$) was rich but well balanced. Its pivotal principle was the opposition of rounded vs. unrounded vowels. In complex vowels it was the rounded vs. unrounded character of the initial component that was significant, which was consistent with the character of syllables: vowels were closely connected with preceding consonants, while their connection with the following consonants was rather loose. The system, omitting diphthongal groups with sonants, was (See also 11,11):

$\breve{\imath}$	$\hat{\imath}$	$\acute{\imath}$	$\breve{u}$	$\hat{u}$	$\acute{u}$
${}_e\breve{a}$	${}_e\hat{a}$	${}_e\acute{a}$	${}_o\breve{a}$	${}_o\hat{a}$	${}_o\acute{a}$
	${}_e\hat{a}i$	${}_e\acute{a}i$		${}_o\hat{a}i$	${}_o\acute{a}i$
	${}_e\hat{a}u$	${}_e\acute{a}u$		${}_o\hat{a}u$	${}_o\acute{a}u$

The immediate effect of the loss of *u*-diphthongs was a reduction in the number of phonemes due to the virtual coalescence of ${}_e\bar{a}u$ and ${}_o\bar{a}u$ into $\bar{u}_2$. Instead of four phonemes (${}_e\hat{a}u$, ${}_e\acute{a}u$, ${}_o\hat{a}u$, ${}_o\acute{a}u$) only two have existed since that time: $\hat{u}_2$ and $\acute{u}_2$. This reduction in number was not detrimental.

The manner in which this reduction occurred, however, upset the equilibrium of the system. ${}_e au$, unrounded (in its initial component) became rounded $\bar{u}_2$ and left a vacancy in the unrounded half of the system:

$\breve{\imath}$	$\hat{\imath}$	$\acute{\imath}$	$\breve{u}$	$\hat{u}$	$\acute{u}$
				$\hat{u}_2$	$\acute{u}_2$
${}_e\breve{a}$	${}_e\hat{a}$	${}_e\acute{a}$	${}_o\breve{a}$	${}_o\hat{a}$	${}_o\acute{a}$
	${}_e\hat{a}i$	${}_e\acute{a}i$		${}_o\hat{a}i$	${}_o\acute{a}i$

Moreover, the oppositions $\breve{\imath} : \breve{u}$, $\hat{\imath} : \hat{u}$, $\acute{\imath} : \acute{u}$ became loose because $\hat{\imath}$, $\acute{\imath}$ could as well enter into the opposition with $\hat{u}_2$, $\acute{u}_2$, and in fact a triple opposition for long *u* and *i* was formed:

$$\hat{\imath}\left\langle\begin{matrix}\hat{u}\\ \hat{u}_2\end{matrix}\right. \qquad \acute{\imath}\left\langle\begin{matrix}\acute{u}\\ \acute{u}_2\end{matrix}\right.$$

The same did not happen in the case of short $\breve{u}$ and $\breve{\imath}$, which created a tendency to set them apart, a trend which later resulted in the radical mutation of the whole phonemic system of CS (See 29,1). These fluctuations in the structure of the vowel system may be represented as follows:

(1)	$\breve{\imath}$			$\breve{u}$				
(2)	$\hat{\imath}$	$\acute{\imath}$		$\hat{u}$	$\acute{u}$		$\hat{u}_2$	$\acute{u}_2$
(3)	${}_e\breve{a}$	${}_e\hat{a}$	${}_e\acute{a}$	${}_o\breve{a}$	${}_o\hat{a}$	${}_o\acute{a}$		
		${}_e\hat{a}i$	${}_e\acute{a}i$		${}_o\hat{a}i$	${}_o\acute{a}i$		

Whereas before the monophthongization of *u*-diphthongs the monophthongs constituted two six-member series, and the diphthongs two four-member series as presented in the first table of this section, now there were (1) a separate two-member series of short monophthongs; (2) three two-member series of long monophthongs; and (3) two heterogeneous six- and four-member series consi-

sting of both monophthongs ($_{e}a$-line) and diphthongs ($_{e}ai$-line) series. The heterogeneous character of the two series (3) called for a change, the asymmetrical character of both series (2) endangered the opposition in labialization as the basic principle of the whole system (the opposition $\bar{\imath} : \bar{u}$ and $\bar{\imath} : \bar{u}_2$ being no more important than that of $\bar{u} : \bar{u}_2$). The separate position of the series (1) was mentioned above.

Thus the internal cohesion of the system was getting lost and all three series were liable to more or less radical changes. The question was which division would undergo the changes first.

9. Monophthongization of *u*-diphthongs and the system of vowel alternations. As mentioned in section 7, the split of *u*-diphthongs into different reflexes according to whether they were in a prevocalic or a preconsonantal position, the transition of $\breve{u}$, $\bar{u}$ into $\breve{\imath}$, $\bar{\imath}$ after palatal consonants and, finally, the coalescence of $_{e}au$ and $_{o}au$-reflexes in the same $\bar{u}_2$ before consonants in great many cases deprived the *u*-series alternations of their motivation.

Some examples of *u*-series alternations were given in 6, 7, but only in preconsonantal position. To add to these and to show the unmotivated character of the alternations in the later Sl languages a few more examples of the *u*-series alternations are cited here, now including prevocalic positions:

eu (> $j\bar{u}_2$)		*ou* (> $\bar{u}_2$)		$\breve{u}$	$\bar{u}$
prevocalic	preconsonantal	prevocalic	preconsonantal		
OCS *revǫ* 'roar'	R *rjúma* 'crybaby'	OCS *rovy* 'roaring'[4]			
		R *rov* 'ditch'	OCS *runo* 'fleece'	R *rot*, gen *rta* 'mouth'	*ryt'* 'dig'
		OCS *kovǫ* 'forge'	R *kujú* 'forge' (1 sg)	OCS *kъznь* 'plotting'	Cz *kyj* 'club'
		R *otáva* 'aftergrass'	OCS *tukъ* 'fat'		P *tyć* 'fatten'
		R *sová* 'owl'			*syč* 'brown owl'
		OR *navь* 'dead'			OCS *unyti* 'despair'
	R *žuk* 'beetle'	*góvor* 'sound of talking'	SC *gûk* 'cooing'		R *gik* 'whooping'
		OCS *krovъ* 'roof'		*krъjǫ* 'cover' (1 sg)	*kryti* 'cover'
		OCS *slovo* 'word'	*sluti* 'be known as'		
		OCS *govędь* 'beef-'	*gumьno* 'threshing floor'		

[4] About the distribution of *ov/ev* in the attested Sl languages see 23,13. It is only conventionally that the forms with *ev* are quoted here as originally containing *ev*, and those with *ov* as originally containing *ov*.

The decay of the *u*-series alternations is attested in later Sl languages by the presence of an extra grade of alternations, notably *ŭv* or *ĭv*.

In the (R) *rov* series, in addition to the examples cited, there is found also a form (OCS) (*otъ*)*rъvati* 'drive back'; in the series *revǫ* – OCS *rъvьnivъ* 'jealous', in the series *krovъ* – OCS *krъvenъ* 'covered'. Cf. also P *szczuć* 'hunt, hound' (*eu*-grade) and Cz *štváti* (OCz *ščváti*, from *ščьv-*); U *xováty* 'hide' and U *píxvy* 'sheath', P *pochwa* ~ *poszwa*, Cz *pochva* ~ *pošva* (*ou*, *ŭv*, and *ĭv*-grades). The forms with *ŭ* and *ĭ* + *v* (hence OCS *ъv*, *ьv*) are innovations of late CS or its dialects. As is well known, *ŭ* and *ĭ* represent the zero grade of *u*-series and *i*-series respectively, but neither in combination with a following *v*. In zero grade of *u*-series *ŭ* should have become *ъ* before consonants, *v* before vowels. The latter is accurately represented in the Sl word for 'pig' (e.g. R *svin'já*) whose root is attested in the lengthened grade in OI *sūkarás*, Gr ὗς, La *sūs*, OHG *sū*, and zero grade in Gr ὕινος, La *suīnus*, OHG *swīn* (adjectives). The Sl word shows no *ŭ* or *ĭ* (> *ъ*, *ь*) between *s* and *v*; the consonant *v* alone represents the zero grade of the root vowel. Another example of such a normal treatment of *ŭ* as *v* before a vowel is **su-d₀arvu* (OCS *sъdravъ* 'healthy'; final *u* from *-os*) as compared with OI *dā́ru* 'log', Av *dāru* 'tree-trunk', Gr δόρυ 'wood', Go *triu* 'tree'.

If *ъ* or *ь* (from *ŭ*, *ĭ*) occur in examples of the above type this shows the influence of another series of alternations. The *u*-series was to a certain extent blended with the sonant series alternations where *ŭ*, *ĭ* represented zero grade with the following sonant (See also 16, 7).

An example of such a blending typical of late CS is OCS *dvьrь* 'door', R *dver'*, Br *dzvéry*, U *dvéri*, P *drzwi* (with metathesis), Cz *dveři* vs. Li *dùrys*, Le *dùrvis*, Gr θύρα, Go *daúr*, which all contain *ŭ*. In some Sl languages *u* appears in this word: LS *źurja*, US *durje*, Sn *dúri*, but this is not the direct continuation of IE *u*. In Sl it developed from *vь* after the loss of *ь* (Cf. Sn *ùš*, gen *uší* 'louse', from *vŭši*, *vŭšī*. See also 23, 15).

The distribution of forms without and with an inserted *ŭ* or *ĭ* (as in *svin'já* vs. *rъvьnivъ* or *dvьrь*) is clear. The tendency to insert *ŭ* or *ĭ* operated wherever there were alternants with other, non-zero grades of the root vowel. For *dvьrь* cf., e.g., *dvorъ* 'court'; for other words cited these forms are given above. If there were no current forms with other grades of alternation, *v* remained as a representative of zero grade. This is the case of *svin'já*, *sъdravъ*. This distribution confirms the secondary and morphologically conditioned character of the forms with *ŭ* or *ĭ* before *v*. The formula for the original pattern of alternations was:

ou : *eu* : *ŭ* (+ consonant) : *v* (+ vowel) : *ū*

Now it became:

u_2 : u_2 : *ŭ* : *ŭv*/*ĭv*[5] : *ū*

with the possible addition of *ī* and *ĭ* (from *ū* and *ŭ* after a palatal consonant). It is easy to see that the second scheme is devoid of any organizing principle.

10. Change in the status of *v*. Before the monophthongization of *u*-diphthongs CS in fact did not have a full-fledged consonant *v*. The phonetic status of this sound depended on its environment: between consonants it was a regular vowel *ŭ* or *ū*; after a vowel it was the second member of a diphthong if followed by a consonant: **r₀au̯|n₀a* (OCS *runo* 'fleece'); and if followed by a vowel it was torn from the preceding vowel and attached to the next syllable: **r₀au̯|u* > *r₀ā|u̯u* (OCS *rovъ* 'ditch'). Yet even in the latter position its consonantal status

[5] Or *vŭ*/*vĭ*.

was conditioned positionally as long as *u*-diphthongs existed. Thus, *v* was tentatively included in the table of CS consonantal phonemes as given in 14,7, but its uncertain status was indicated by putting parentheses.

The situation changed after the monophthongization of *u*-diphthongs. *u̯* no longer appeared as the last component of a diphthong. What had made it different from other consonants (including resonants) was that in zero grade it had been used alone, without any support of *ŭ* or *ĭ*. As shown in section 9 this situation also changed: **kru̯ₑanu* became **kruvₑanu* (OCS *krъvenъ*). This was the last step in the transformation of /v/ into a consonant.

It was followed by the adaptation of *v* to other labials in consonantal alternations. The labials *b, p, m* were characterized by alternations with the same labial + *l'*. Now *v* had to follow the trend. Substantives of the type (R) *lóvlja* 'catching', *trávlja* 'hunting' (by chance or not, not attested in OCS), derived from (OCS) *loviti* 'catch', *traviti* 'consume' followed the pattern of (OCS) *kuplja* 'purchase', *krъmlja* 'food'.

Third class verbs (type OCS *darovati* : *darujǫ* 'grant') normally had a twofold reflex of ₒ*au*, before a consonant (i.e. *j*, pres stem) and before a vowel (inf and aor stem). In fourth class verbs, where in pres tense *j* was used only in 1 sg (as well as in the impf and past act and pass part – cf. OCS *blagoslovljěaše* 'blessed', *ěvljъša* 'appeared', du, – Mar), the *u*-form was early superseded by the -*ov*-forms used in all other persons: *loviti* : **lujǫ* : *loviši* became *loviti* : *lovljǫ* : *loviši* (with *l'* introduced from the pattern *kupiti* : *kupljǫ* 'buy', etc.). As early as OCS, *lovljǫ* forms are the only ones attested. But *u*-forms before *j* have been preserved in isolated words not exposed to the pressure of a paradigm, like OCS *struja* 'jet', R, Bg *strujá*, Sn, SC *strúja* – cf. Li *straujà* 'stream', etc., strongly indicating that *u* was the only phonetic reflex of *u*-diphthongs before *j* as much as before any other consonant and that 1 sg forms of the type **lujǫ* actually did exist. The reconstructed competition between *u* and *ov*-forms now completely erased in fourth class verbs, is probably still manifest in the verb meaning 'prepare', where however the preservation of *u*-forms meant transferring the verb into the third class type: along with the fourth class forms OCS *gotoviti*, R *gotóvit'*, Cz *hotoviti*, Sn *gotǫ́viti*, SC *gòtoviti*, M *gotvi*, Bg *gótvja* it is represented as a third class verb in U *hotuváty*, Br *hatavác'*, P *gotować*, LS *gotowaś*, while doublets are found in US *hotowić* ~ *hotować*, Sk *hotovit'* ~ *hotovat'*, and OCS itself had a doublet *gotovati*[6]. Otherwise, in the pres tense, forms in -*vljǫ* victorious in their competition with -*ujǫ* forms in the fourth class, became productive and frequent in all Sl languages. In the main texts of OCS alone 22 verbs of that type are in use (*jazviti* 'wound', *gněviti* 'anger', etc.). This was tantamount to complete incorporation of *v* in the system of consonants.

This does not predetermine the phonetic characteristics of /*v*/. It is certain

[6] Parallel appearance of -*u*- and -*v*- forms in the impf of the third class verbs (e.g. *pljuěxǫ* 'spit', 3 pl, Mar vs. *pljvaaxǫ*, Mar, Zo, *plьvaxǫ*, Sav), which is traditionally considered from a morphological point of view as a fluctuation between pres and aor stems, may also have reflected a competition of phonetic origin between -*u*- and -*v*- forms.

that in CS it was a bilabial consonant [w]. Later in the Sl languages it became [v], either exclusively as in R and P, or positionally, chiefly before vowels, as in U, Br, and Sk. These changes belong to the histories of the individual Sl languages. Phonemically they were of little importance. In Sl for the most part there is no phonemic opposition between bilabial and labiodental articulation of this consonant, so that, in fact, [w] is relatively free to move toward [v] and vice versa. Yet P, So, and Sn developed a phonemic opposition /v/ vs. /w/ (spelled *w* and *ł* or *l*), as in P /p'iva/ (spelled *piwa*, gen sg of *piwo* 'beer') vs. /p'iwa/ (spelled *piła*, fem sg pret from *pić* 'drink'). In this book the traditional notation *v* is retained, which however should not imply any phonetic characterization of the CS consonant.

Traces of bilabial pronunciation of *v* are not numerous in those Sl languages which completely or positionally changed [w] into labiodental [v]; but they do exist. These are primarily cases of *v* found in place of an expected *u*, under conditions of reduction. Corresponding to *útro* 'morning' R has *závtrak* 'breakfast' while P *zajutrek* and SC *zàjutrak* still preserve *u*; Sk *zajtrok* 'tomorrow', Cz *zejtrek*, Sn *zâjtrk* simply dropped *u*. Cf. also R river-name *Vtroja* (right tributary of the Narova), from Est dial *udras* 'otter' (+ Fi, Est *oja* 'brook'). Other evidences of relatively long preserved [w]-type pronunciation, at least before *ŭ*, are Sn (cited above) *ùš* 'louse', *dúri* 'door' and SC change of initial *v* + *ъ* into *u*, as in *ùvoz* 'import', *ȕdova* 'widow'[7], attested as early as in Mar (*uselenaě* 'universe', *udvarěti sę* 'lodge', etc.); also Cz *úterý* 'Tuesday', *uprostřed* 'in the middle', etc.

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[7] From **vъdova*, but probably through *vъdova*, as spelled systematically in Mar.

20. MONOPHTHONGIZATION OF *i*-DIPHTHONGS

1. General statement. 2. Identification. 3. Examples. 4. Reflexes of ${}_{o}ai$ in word-final position. 5. Chronology. 6. Conditions. 7. Effects: the phonemic system. 8. Examples of *i*-series alternations after the monophthongization of *i*-diphthongs. 9. Phonemic status of *j*.

1. As IE *o* and *a* coalesced in ${}_{o}a$ and *e* changed into ${}_{e}a$, at the time under consideration CS possessed only two *i*-diphthongs: ${}_{o}ai$ and ${}_{e}ai$ (IE *oi*, *ai*, *ei*). The treatment of *i*-diphthongs varied according to whether they were in a prevocalic or a preconsonantal position.

In a prevocalic position *i*-diphthongs did not undergo any qualitative mutation. The change consisted in the shift of the syllable boundary: *i̯* was assigned to the next syllable, joining with its vowel. Thus it obtained consonantal status (henceforth denoted *j*, see details in section 9) and ceased to be a part of the diphthong. The former first component of the diphthong, i.e. ${}_{o}a$ or ${}_{e}a$ became a full-fledged monophthong and the final component of the syllable to which it belonged. E.g., **r${}_{o}$ai̯|u* > **r${}_{o}$a|ju* (R *roj* 'swarm'), **gl${}_{e}$ai̯|u* > *gl${}_{e}$a|ju* (R *glej* 'clay'). A prevocalic-position diphthong was decomposed rather than monophthongized. This shift of syllabic boundary was early CS or perhaps even pre-CS (See 2,2).

In a preconsonantal position *i*-diphthongs were truly monophthongized. In ${}_{e}ai$ the final component prevailed so that the ultimate product of the development was *i*, e.g. **gl${}_{e}$ain${}_{o}$ā* > (R) *glína* 'clay', generating the alternation *ej* : *i* (R *glej* : *glína*). This was the same process that affected *u*-diphthongs. It was different in the case of ${}_{o}ai$-diphthongs. They changed in preconsonantal non-initial position into *ě* (${}_{e}ā$), e.g. **r${}_{o}$aik${}_{o}$ā* > OCS *rěka* 'river'; as a result, the alternation *oj* : *ě* arose (R *roj* : OCS *rěka*). This development cannot be explained by the strengthening of the last component of the ${}_{o}ai$-diphthong and assimilation of the preceding part of the diphthong to it. Such a change would yield *i*, not *ě*. Not only is the outcome different from the components of the original diphthong, but the relation between the components in the two stages also differs. In the original diphthong the closest component is final (${}_{o}ai$); in the product of the development it is the initial one (${}_{e}a$), the order thus being reversed.

This observation suggests that ${}_{o}ai$ underwent a metathesis: ${}_{o}ai$ > *i̯${}_{o}$a*, with subsequent change of ${}_{o}$ into ${}_{e}$, according to the rules of the first delabialization of rounded vowels, and simultaneous absorption of *i̯* by ${}_{e}$ in word-internal position. Phonetically this is easily understandable if one assumes an anticipated pronunciation of *i̯*, a frequent and rather common development for palatalizing elements attested in many languages and dialects, e.g. Sn [kòjn] for *kònj* 'horse',

interplay of forms in the pronominal declension. Here along with the "hard" type represented in nom pl by **tě* (masc), *ta* (neut), and *ty* (fem), there functioned also not only the "soft" type with *ji* (masc), *ja* (neut), and *ję* (fem) – (note that the endings of neut in both paradigms were identical) – but also a "third" type represented by OCS *si(j)i* ~ *si* (masc), *si* (neut), and *siję* (fem). The presence of *-i* in this type as well as in the "soft" type was probably responsible for *ti* replacing **tě* in masc, and then spreading to subst.

It is hardly possible to explain away the imp sg forms in *-i* as being due to morphological factors. True, third class verbs normally developed the ending *-i* from $_{o}$*ai* > $_{e}$*ai* after a palatal(ized) consonant: OCS *žьnji* 'reap', *glagolji* 'say'. Furthermore, cases of influence exerted by third class verbs on the first class verbs are well known: in 18,2 it was shown that 1 pl **pl$_{e}$at$_{o}$amu* became *pletemъ* 'weave', affected by forms of the type *žьnjemъ*. But in the pres this influence was heavily supported by the presence of *e* in other persons of the same first class verbs: 2 and 3 sg and 2 pl (OCS *pleteši*, *pletetъ*, *pletete*). A leveling between sg and pl, 1 pl and 2 pl took place. In the imp it was the opposite: while first class verbs assumed the ending *-ī* in sg (OCS *pleti*) *ě* from $_{o}$*ai* was preserved in pl. (OCS *pletěte*) causing a split between sg and pl where originally there was -$_{o}$*ai*- throughout the paradigm (Cf. Gr opt: 2 sg παύ-οι-ς, 3 sg παύ-οι (< **-oit*), 1 pl παύ-οι-μεν, 2 pl παύ-οι-τε 'bring to end'). The influence of third class verbs could hardly have been so powerful as to cause the break between the sg and the pl of the first class verbs and yet so powerless as to stop short of the pl after allegedly having remolded the sg.

The explanation is rather to be sought in the peculiar character of the imp as a category. The corresponding form in Li (e. g. *te-vertẽ* 'pass through', *te-sukẽ* 'twist') has FP while in Sl the ending of 2 and 3 sg of imp displays RP, e. g. SC Čak *pecȉ* 'bake', *tresȉ* 'shake' vs. *gȉni* 'perish', R *pekí* 'bake' vs. *stan'* (< *stáni*) 'become', etc. This metatony indicates that in CS the affective nature of the category resulted in a particular emphasis on the last component of the sg form (the vowel became final after the loss of final *-s*, *-t*). Under these conditions the imp sg form reinforced the last component of its final diphthong, *-i*, to which the first component of the diphthong was assimilated. That is, the sg of imp *-oi* followed the development typical otherwise of *ei* ($_{e}$*ai*) (as well as of *u*-diphthongs) rather than that of *oi* ($_{o}$*ai*) in all other positions. One may infer that $_{o}$*ai* in the sg imp probably monophthongized sooner than in other positions. In the pl where $_{o}$*ai* was not final it was not emphasized, and therefore survived until the general change of $_{o}$*ai* and followed its regular trend, i. e. underwent metathesis.

Thus deviations in the development of final -$_{o}$*ai* can be explained by morphological and affective factors different for each category involved. Yet attempts were made to see a special phonetic development in these cases and to find their common denominator. Intonation was called forth to explain the supposedly twofold reflexes of -$_{o}$*ai*. RP was made responsible for *ě*-reflexes, FP for *i*-reflexes. But in *ā*-stems dat sg had FP while loc sg bore RP and still they both end in *-ě* (OCS *ženě*). The nom pl, at least in subst, had FP (Cf. SC *bȍzi* 'gods', R *bógi*), but the imp sg obviously switched to RP; and yet both end in *-i*. Thus, the facts contradict any general phonetic explanation of the change-$_{o}$*ai* > *-i* in CS.

5. Chronology. The relative chronology of the monophthongization of *i*-diphthongs may be established only in a rather broad framework. The monophthongization took place before the progressive palatalization of velars (See 23,2), but after the delabialization of $_{o}$*a*, as is obvious from the split of $_{o}$*ai* into *ě* after non-palatal and *i* after palatal(ized) consonants, particularly manifest in declension (loc sg *rabě* vs. *konji*, loc pl *těxъ*, *raběxъ* vs. *ixъ*, *konjixъ*, as attested in OCS, etc.). There are no clear indications as to the place of monophthongiza-

tion of *i*-diphthongs in relation to that of *u*-diphtongs. One can only suppose that the monophthongization of *ₑai* into *i* may have occurred about the same time as the monophthongization of *u*-diphthongs, because it followed the same line of development: the prominence of the last component of the diphthong and the absorption by it of the preceding part of the diphthong. The monophthongization of *ₒai* did not follow this trend and therefore may be referred to a somewhat later time. This is only a logical construct however, and in need of corroborating facts.

As for absolute chronology, the data supplied by comparison with neighboring languages are somewhat scarcer in the case of *i*-diphthongs than for *u*-diphthongs. An examination of Irn (Scythian ?) personal names recorded in Gr cities on the north shore of the Black Sea shows that in the course of history *ai* in these names changed into *ē* (spelt as η, ε). But this was hardly connected with the Sl phonetic development, especially because no Sl names are attested in these records. Rm does not provide any evidence because it did not inherit any *i*-diphthongs from (V)La, nor did it develop any. Gr renders Sl *ě* from *ₒai* the same as any other *ě* (dial SGr ἀστριάχα 'eave' < (OCS) *strěxa*, in alternation with OCS – prevocalic – *stroi* [strojь] 'accomodations'). This would suggest that the monophthongization had been completed by the arrival of the Slavs in S Greece.

Loan words from Go which had *i*-diphthongs underwent the same treatment as native words, e.g.:

OCS *lixva* 'usury' < Go **leihva* 'loan', *leihvan* 'lend';
OCS *gobino* 'prosperity' < Go *gabei*, gen *gabeins* 'wealth';
OCS *cěsarjь* 'emperor' < Go *káisar* 'emperor'.

That the Slavs still had *i*-diphthongs during at least their earlier contacts with Germ tribes also follows from the fact that the Sl tribe-name *Dudlěbi* (in turn from Germ *Deudo* + *laifs*) is rendered in Germ sources as late as the ninth century with a diphthong: *in Dudleipin* (Conversio Bagoariorum et Carantanorum, compiled in the middle ninth century), *in comitatu Dudleipa* (charter of 891, from Sn territory); but Al Masʿūdī in the middle tenth century renders it as *ě*: *Dulâbe*.

At the time of the early contacts of the Eastern Slavs with N Germanic no *i*-diphthongs were used in Sl. ON *Guđleifr*, personal name (OSw *Guđlēfr*) is rendered in OR as *Gъlěbъ*, not ⁺*Gъlibъ*. Yet the example is not entirely conclusive because it is possible that the Slavs borrowed the word when it no longer had a diphthong.

Important evidence is furnished by Le. It generally renders Sl *ₑai* as *i*, but the word *krìevs* 'Russian' and the suffix *-nieks* denoting masc persons reflect the Sl diphthong. This means that Sl lost diphthong soon after the earliest Sl-Le contacts.

From the reference cited, and in accordance with the relative chronology, it follows that the most plausible period for monophthongization of *i*-diphthongs was the sixth, possibly the seventh century.

WP [n'ei̯śe] for P *niesie* 'carry' (3 sg), US *tajki* 'such' for *taki*, etc. Examples are also plentiful outside of Sl, e.g. the Gr verbs of the type πείρω 'penetrate' < **peri̯ō*, etc.; in Li and Le *i*-diphthongs are partly unchanged but partly metathesized (with coalescence of *ei* and *oi*), cf. Li *žiemà* 'winter', Le *zìema* as compared with Gr χεῖμα (OCS *zima*); Li *diẽvas* 'god'[1], Le *dìevs* as compared with Av *daēva-* 'demon' (Cz *div* 'wonder'), etc.

The metathesis of $_{o}$*ai*-diphthongs is particularly obvious in word-initial position. Here $_{o}$*ai* was metathesized into *i̯$_{o}$a* and delabialized into *i̯a* becoming *ja-*. The pertinent examples are cited in 16,5e. See for instance OCS *jazva* 'sore' corresponding to Li *áiža* 'cleft', Le *aĩza*, OPr *eyswo* 'wound'. Fluctuations due to instability of initial *j* are discussed in 11,9.

2. Identification. As $_{e}$*ai* changed into *ī* and $_{o}$*ai* into *ě* they coalesced with *ī* and *ě* of other origin, notably *ī* from IE *ī* and *ě* from IE *ē*. Consequently, the evidence of the historical Sl languages does not allow us, to establish directly whether in each case we are dealing with a reflex of *ei* vs. *ī*, or of *oi*, *ai* vs. *ē* respectively. If there are no alternations preserved in a given morpheme, data from other IE languages are indispensable for identification.

Gr preserved all three *i*-diphthongs without changes: ει, οι, αι. OPr distinguished *ei* but merged *oi* with *ai*. OI *ē* and Av *aē* signal an original *i*-diphthong but do not indicate which one of the three. La *ae* leads to IE *ai* ,while *oi* changed into *oe* and later *ū*. In Ce, OIr distinguished between *ae* from *ai* and *oe* from *oi*, while *ei* was reflected as *ē* or *ia*. Arm retained *ai* as *ay*, but changed *oi* to *ē*. Germ like Sl monophthongized *ei* into *ī* and merged *oi* with *ai* (reflected as *ai*, *ei*, *ē*). As shown in section 1, Li merged all three *i*-diphthongs if they underwent metathesis (*ie* [ia ~ ea] resulting), but kept *ei* separate from *ai* (< *oi*, *ai*) if it escaped the metathesis.

Thus, IE *ei* is directly identifiable from Gr, OPr, and partly Li; IE *oi* from Gr, OLa, and OIr; IE *ai* from Gr, La, and Arm. In other cases it is the combination of the data from various languages which sheds light on the IE origin of the vowel under scrutiny[2]. See also the table in 2,3.

3. Examples. a) Diphthong *ei*: U *hlyvkýj* 'glutinous' (spelled usually *hlevkyj*), Sk, Cz *hlíva* 'fungus', Sn *glíva* 'tree fungus', SC *gljȉva* 'sponge' – Li *gleĩvės*, Gr γλοιός 'sticky moisture';

OCS *ližǫ* 'lick' (1 sg) – Li *liežù* (iter *laižaũ*), OI *lēḍhi*, Av *raēz-*, Gr λείχω, La *lingō*;

OCS *i* 'and' – Gr εἰ 'thus, if', Go *ei* 'and'; this is loc sg of the pron **os*; cf. Li *jéi* 'if', loc sg of the pron **i̯os*.

Further examples: OCS *činъ* 'order, row', (*sěti* :) *sějǫ* 'sow', *zima* 'winter', *gniti* 'rot', (*žьdati* :) *židǫ* 'wait', *iti* 'go', *vidъ* 'look', *tixъ* 'still', *pisati* 'write', *lixъ* 'superfluous'; R *síto* 'sieve', *krivój* 'curved'; Cz *či* 'or', etc. See also section 8.

In endings *ei* is represented by *-i* in the inf (OCS *iti* 'go'), dat sg of *u-* and

[1] In OLi, as late as the sixteenth century, *deivas*!

[2] Indirect evidence may be drawn from vowel alternations. If in a morpheme the reflex of *ě* alternates in other forms with reflexes of *ĭ*, it indicates that this *ě* (but not necessarily *i*) goes back to an *i*-diphthong, the IE series of alternations being *ei* : *oi* : *ĭ* : *ī*.

consonantal stems (*syn-ov-i* 'son', *kam-en-i* 'rock', cf. OI *sūnáve*), gen, dat, loc, voc sg of *i*-stems (OCS *kosti* 'bone', cf. for gen Li *aviẽs* 'sheep', for dat-loc Gr πόλει 'town', for voc Li *aviẽ*); in the nom pl of *i*-stems *-i* may go back to *-*ei-es* with the second *e* dropped (OCS *kosti*, cf. Gr πόλεις), but it is more probable that in Sl the nom pl ending was transferred from the acc pl (where it goes back to *-*iNs*).

In other cases *i* in endings represents not IE *ei* but the new ₑ*ai* from ₒ*ai*, resulting from the first delabialization of rounded vowels. In these instances *i* after palatal(ized) consonants is parallelled by *ě* after non-palatal(ized) consonants, e. g. loc sg of *jo*-stems OCS *konji* 'horse' as opposed to *o*-stems *rabě* 'slave'; dat -loc sg of *jā*-stems OCS *zem(lj)i* as opposed to *ā*-stems *ženě* 'woman'; nom-acc du of neut *jo*-stems OCS *polji* 'field' as opposed to *o*-stems *selě* 'field'; 2 pl imp of third and fourth class verbs OCS *žьnjite* 'reap', *molite* 'pray' as opposed to first and second classes *nesěte* 'carry', *vykněte* 'get accustomed'.

On reflexes of *ei* in prevocalic position see also 23,14.

b) Diphthong *ai*. Unambiguous examples are rare. Usually the following two are cited:

OCS *lěvъ* 'left' – Li *išlaivóti* 'make curves', Gr λαι(ϝ)ός 'left', La *laevus*;

RChSl *děverь* 'brother-in-law' – Li *dieverìs*, Le *diẽveris*, OI *dēvā́*, Arm *taigr*, Gr δα(ιϝ)ήρ, OHG *zeihhur*;

possibly also OCS *pěti* 'sing' (prevocalic *pojǫ*, 1 sg) if a cognate of Gr παιάν 'paean', Go *faian* 'censure, reprove'.

The dat-loc endings of *ā*-stems continue IE *-āi*: OCS *ženě*.

c) Diphthong *oi*: OCS *větъ* 'decision' (Cf. R *otvét* 'answer') – Li *vaitenù* 'judge' (1 sg), Le *vaĩcât* 'ask', OPr *waitiāt* 'speak', Av *vaēϑā* 'conviction';

U *dižá* 'kneading trough', P *dzieża* – Li *diežti* 'work up', OI *dēhī́* 'bank, rampart', Arm *dēz* 'heap', Gr τοῖχος 'wall', Go *daigs* 'dough';

OCS *vina* 'guilt, cause' (prevocalic *voinъ* [vojinъ] 'warrior') – Li *vaina* 'fault, frailty', Le *vaĩna* 'guilt', OI *vēti* 'pursue, long', Av *vayeiti* 'drive', ON *veidr* 'hunt'.

Further examples: OCS *běda* 'need', *světъ* 'light', *děliti* 'divide', *stěna* 'wall', *měna* 'exchange', *rěka* 'river', *slědъ* 'track', *věděti* 'know', *cěna* 'price', (*otъ*)*lěkъ* 'remainder', *lěpъ* 'beautiful', *měsiti* 'mix up', *sněgъ* 'snow', *pěna* 'foam', *sětь* 'snare', *cělъ* 'whole', *ʒělo* 'very'; R *lepít'* 'model', etc.

A few more examples are given in section 8. For endings see section 4.

4. Reflexes of ₒ*ai* in word-final position. In final position the regular reflex of ₒ*ai* is *ě*, the same as in the middle position. This applies to the loc sg of *o*-stems (*rabě*); dat - loc sg of *ā*-stems (*ženě*); and nom-acc du of *ā*-stems and neut *o*-stems (*ženě*, *selě*). The regular character of this reflex is evidenced by its presence in isolated forms such as OCS *tě* 'then' (Cf. Li *taĩ* 'so') or *vědě* 'know' (1 sg), the only possible survivor of IE perf (Cf. OI *vidé*, La *vīdī*).

There are however three morphological categories in which *-i* occurs in place of ₒ*ai*: nom pl of *o-stems* and pron in masc, OCS *ti rabi*; dat sg of the enclitic personal pron *mi*, *ti* as well as reflexive *si*; and 2 and 3 sg imp of first and second class verbs: *vedi* 'lead', *vykni* 'get accustomed'.

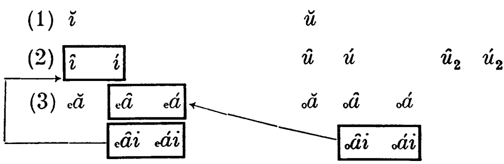
Of these three the enclitic pronouns can be easily eliminated. There is no certainty that in IE they had only the ending *-oi*; it is quite possible that *-ei* also was in use: Gr (ἐ)μοί, of course, testifies to *-oi*, OI *mē* is ambiguous, but La *mī* points to *-ei*.

The nom pl ending in masc *o*-stems (taken from pron declension) probably was IE *-oi*, cf. Li *vergaĩ* (sg *vérgas* 'slave'), Gr ὁδοί 'roads', La *amicī* (OLa *-oe*), although it is also possible that there was an *-ei*-form in pron (OPr *tennei* 'they'). Even if the *oi*-form is taken as the point of departure, the change of this *-oi* into *-ei* > *-ī* can be accounted for morphologically, *-ī* (*-ei*) being induced from the *jo*-stems (type OCS *konji*). One possible reason for this was the complete isolation of *-ě* in the whole system of nominal pl, while *-ī* was supported not only by *jo*-stems but also by *i*-stems, and was gradually spreading into consonantal stems. Of no less importance was the

6. Conditions. The conditions under which *i*-diphthongs were monophthongized were identical with those for the elimination of *u*-diphthongs. Phonetically both changes resulted from the incompatibility of descending diphthongs with a tendency to open syllables having a rising wave of sonority. The contributing morphological factor was the obscurity of vocalic alternations brought about by a series of phonetic changes and strengthened by the decomposition of *i*-diphthongs in prevocalic position, where *i̯* was allotted, as *j*, to the next syllable, disassociating from each other forms of the type $*v{}_{e}ai|n{}_{o}\bar{a}$: $*v{}_{o}a|j\bar{\imath}nu$ (OCS *vina* : *voinъ*).

Although the treatment of ${}_{e}ai > \bar{\imath}$ by assimilation of the first component to the second differed from that of ${}_{o}ai > \check{e}$ by metathesis, the result was the same: the substitution of level or rising sonority for the falling one within the vowel itself and the occurrence of only rising sonority within the syllable.

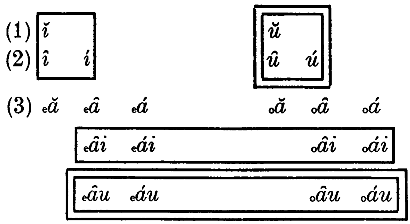
7. Effects: the phonemic system. While identical with or similar to the monophthongization of *u*-diphthongs in conditioning and general character, the monophthongization of *i*-diphthongs differed greatly in its impact on the system of phonemes. Monophthongization of *u*-diphthongs did not lead to the coalescence of the reflexes with any previously existing vowels, which was the effect of the monophthongization of *i*-diphthongs. Both ${}_{e}ai$ and ${}_{o}ai$ fell together with *i* and *ě*, then present in CS. In addition, they changed the "floor" (${}_{e}ai$) or the "column" (${}_{o}ai$) in the system, as may be shown schematically, taking the table cited in 19,8 as our basis:



The immediate effect of this change was to reduce the number of vowel phonemes by four. The system of vowels became much simpler, without losing its symmetrical character. It was still basically the same system without the lowest "floor" (lower level of the "floor" 3).

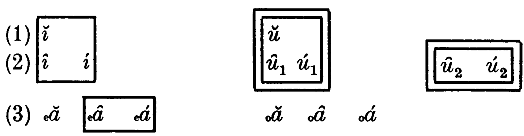
Yet this greater simplicity was acquired at the expense of two major complications. One was the threat to the combinations of vowels with nasals and liquids, primarily of the type ${}_{e}a$N, ${}_{e}ar$, ${}_{e}al$ and ${}_{o}a$N, ${}_{o}ar$, ${}_{o}al$, omitted in the table above but still present in the language. These never were and, because of the phonetic nature of nasals and liquids, could never be diphthongs in the strict phonetic sense, but they were functional diphthongs, participating in the system of alternations in the same manner as real diphthongs, i.e. those with *u* and *i*. Like the latter, they also had a pitch pattern covering both the vowel and the sonant. These functional diphthongs were possible as long as *u* and *i*-diphthongs existed. When the latter were lost the spurious diphthongal character of the functional diphthongs was exposed and their elimination from CS became only a matter of time.

The second complication caused by the loss of *i*-diphthongs was the striking disparity between the new phoneme system and the inherited pattern of vowel alternations. Originally there was a well established balance between the two. Vowel alternations went through all three "floors" of the system of vowels and at the base united the two columns. Reproducing once more the system of vowels before the loss of both *u* and *i*-diphthongs, framing the alternants of the *i*-series and double-framing those of the *u*-series, the following diagram is obtained:



The harmony between the system of phonemes and the alternation systems is evident in this presentation.

After the monophthongization of *u* and *i*-diphthongs this harmony is completely obliterated:



As seen from the chart, the *i*-series encroached upon the third "floor", overlapping with what was originally the alternation of monophthongs (IE *e* : *o*). Its *e*-grade coalesced with its lengthened # grade. The whole alternation became concentrated in the left column, losing its intercolumnal connections. The *u*-series was also deprived of any connection either with the left column or with the bottom "floor".

This all meant that vowel alternations of the *u* and *i*-series lost their motivation and became nothing but a burden maintained by tradition alone.

It was, thus, the end of the productive system of alternations inherited from IE, although of course its debris still encumbered the vocabulary and the morphology of Sl and does so to this day. Indirectly this had to affect also the phonemic system. The hitherto symmetrical system of vowel alternations which fitted so well into the vowels system itself was an important cohesive factor phonemically. Now, with this factor lost, the system of vowels became much less resistant, much more subject to changes. Its apparently increased simplicity was deceptive, as forthcoming upheavals were to reveal.

8. Examples of *i*-series alternations after the monophthongization of *i*-diphthongs. In addition to the general characterization of the changes occurring in *i*-series alternations after the loss of *i*-diphthongs, as given in section 7, there should

be cited some examples of the "new look" of these alternations (See also those cited in 6,7 where the prevocalic position was omitted). Since preconsonantal $_{e}$*ai* and *ī* coalesced into *ī*, the distinction between the two is often difficult and at best tentative. Reflexes of $_{e}$*ai* in prevocalic position are also quoted here although they will be treated in more detail later (See 23,14).

ei		*oi*		*ĭ*	*ī*
Prevocalic	Non-prevocalic	Prevocalic	Preconsonantal		
OCS *trьje* 'three'	*tri* 'three'	*trojica* 'trinity'		*trьsvętь* 'three times holy'	
OCS *sijati* 'shine'		R *sójka* 'jay'	OCS *sěnь* 'shadow'		SC *síniti* 'gleam'
OCS *zějǫ* 'yawn'		R *nazójlivyj* 'importunate' U *zájvyj* 'superfluous' (lengthened)			OCS *zinǫti* 'yawn'
		R *kroít'* 'cut'			US *křida* 'sieve'
OCS *rějati* 'push'		ChSl *naroi* 'onslaught'	OCS *rěka* 'river' Bg *kreštjá* 'shout'		OCS *rinǫti* 'dart' OCS *kričь* 'shout'
	OCS *postignǫti* 'reach'			*stьʒa* 'path'	
	P *ślina* 'saliva'		U *paslín* 'nightshade'	R *paslën* (< **-slьnъ*)	
		SC *gòjiti* 'breed' *gâj* 'forest' (lengthened)		P *żwawy* 'brisk'	OCS *žiti* 'live'
	OCS *iti* 'go'			Cz *jdu* 'go' (1 sg)	
		OCS *tojǫ* 'that' (instr sg fem)	*těmь* (instr) sg masc)		

9. Phonemic status of *j*. Originally *j* was but a positional consonantal allophone of the vowel *i*. This phoneme *i/j* was a vowel interconsonantally; the second component of a diphthong between a vowel and following consonant; and a consonant before a vowel, if not preceded by another vowel: C*i*|C-, CV*i̯*|C, C*j*V- or *j*V-. A push toward endowing *j* with the phonemic status of a consonant was given by the shift of syllabic boundary in the sequence V + /i/ + V: V*i̯*|V > V|*j*V-, which was as indicated in section 1 a very early development, prehaps pre-CS. As, however, [i] could never occur in this position the phonemic status of *j* as a consonant was still uncertain. For this reason *j* was placed in parentheses in the table of CS consonants as given in 14,7.

Further developments hardly made the status of CS *j* more definite. When clusters of consonant + *j* were eliminated (See 14,1), the frequency of use of *j*

was greatly reduced. It occurred as a consonant in word- and syllable-initial position only; but even here its status grew uncertain when a specific vowel structure developed in CS, with cores preceded by on-glides, heterogeneous in their relation to the core (types *ₑa*, *ₒa*) or homogeneous (types *ᵤu*, *ᵢi*). Under these conditions *j* before a vowel could easily be interpreted as an on-glide of the following vowel. It is in fact only word initially before u_2 that *j* could not be apprehended as an on-glide. These cases (cited in 16,5d) are however not only of more recent date but statistically rare. Thus *j* as a consonant was characterized by limited usage, low functional yield and rather unclear delimitation from *i*.

It has been shown in 16,7 that at morpheme boundaries late CS occasionally had vacillation between *j* and *v*, and that in general *v* proved to be more tenacious and more often stabilized, sometimes even at the expense of *j*. This is but another aspect of the somewhat shaky status of *j* as a CS consonant. Its rival in the function of intervocalic buffer at morpheme boundaries, *v*, although not much (if any) older than *j* in the CS consonant system proved to be better rooted: it was admitted in consonantal clusters and before all vowels, and after the loss of *u*-diphthongs it joined the system of alternations between labial consonants and labial consonants + *l'* (See 19,10). This probably was the reason why in cases of fluctuation of intervocalic *v* ~ *j* at morpheme boundaries *v* was so often given preferance and *j* was retained only if it had a strong support in other forms of the same root, as a rule in morphologically isolated groups of words: *ubijati* 'kill' became in most Sl languages *ubivati* because there were numerous verbs in -(*o*)*vati* but (OCS) *trьje* 'three' retained its *j* because it was morphologically isolated and supported by the whole system of alternations (as cited in section 8).

Monophthongization of *i*-diphthongs did not radically change the status of *j*. But it eliminated the function of *i̯* to be the second member of a diphthong (between a vowel and a consonant), and thus delineated a clearer polarization between *i* and *j*. Since that time *i* was used only before a consonant, *j* only before a vowel; after a consonant only *i* was possible. This would make *j* a typical consonantal allophone of *i*. Yet, with the rather uniform structure of CS syllable of the time, syllable-initial *j* so manifestly occurred in a position reserved for consonants only that it was retained within the consonantal system independent of its association with *i*; and the competition with *v* in the intervocalic position at morpheme boundaries, while reducing frequency in the usage of *j*, emphasized its consonantal function.

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21. SECOND REGRESSIVE PALATALIZATION OF VELARS

1. General statement. 2. Examples. 3. Preservation in the Sl languages; identification. 4. Alternations in the clusters *sk*, *zg*. 5. Problem of intermingling reflexes of the second and the first palatalizations of velars. 6. Palatalization of velars before $v + \check{e}_2$. 7. Chronology. 8. Outlook. 9. Problem of the earliest dialectal divisions in CS.

1. In syllables which included a velar followed by the diphthong *ₒai* the metathesis of the components of the latter resulted in a group velar + (*i̯ₒa* >) *ₑa*. Such groups contradicted the principle of intrasyllabic harmony and were not admitted in Sl after the first palatalization of velars. Hence velars before the newly arisen *ₑa*, conventionally called $\check{e}_2$, underwent a palatalization known as the second (regressive) palatalization of velars. It is to be assumed that this was not separated in time from the metathesis of *ₒai* but was a concomitant of the latter.

Basically a consequence of the metathesis of *ₒai*-diphthongs into $\check{e}_2$ and of the incompatibility of velars with front vowels, the second palatalization of velars logically spread also to positions in which, under the pressure of morphological or affective factors *ₒai* yielded *i* (See 20,4). It is also found in a few loan words with velars followed by front vowels other than *ě*. The assumption is that these words entered Sl while the second palatalization of velars was in operation, and became involved in the trend.

The end results of the second palatalization as seen in the living and attested Sl languages are partly common to all Sl languages and partly different. In the case of *k* all Sl languages as a rule have *c*. The reflex of *g* in most Sl languages is *z*, but P, Pb and, with vacillations, OCS have *ʒ*. It is usually assumed, and rightly so, that *ʒ* represents the older stage in the development whereas *z* developed from *ʒ* in the individual histories of some of the Sl languages. Yet in the case of *x* the variety of reflexes cannot be relegated to later time and is to be ascribed to different developments within CS itself. Under the conditions of the second palatalization the reflex of *x* is *s* in the languages traditionally classified as ESl (R, Br, U) and SSl (Sn, SC, M, Bg); in P, So, WSk and Cz it is *š*. Pb has *s* but this is inconclusive because in Pb *š* is lost in all positions along with other hushing consonants. About the situation in Ce (and E)Sk see footnote 1.

2. Examples. A. Reflexes of *k*. a) Before $\check{e}_2$:

OCS (*o*)*cěstiti* 'clean', OR *cěstiti*, Sk, Cz *cesta* 'road', OP *pocesny* 'traveller', Sn *césta* 'road', SC *cȇsta*, MBg *cěsta* – cf. Li *skáistas* 'radiant' (another grade, supposedly *ei*, in OCS *čistъ* 'clean', with, consequently, first palatalization of velars);

OCS, OR *cě* 'though' – cf. Gr *καί* 'and' or Li *kai* 'as', OPr *kai*;

OCS *cělъ* 'whole', R *célyj*, Br *cély*, U *cílyj*, P *cały*, LS *cely*, US *cyly*, Pb *ćol* (tsiõl),

Sk, Cz *celý*, Sn *cêl*, SC *cȅo*, M *cel*, Bg *cjal* – cf. OPr *kailūstiskan* 'health', Gr κοῖλυ 'beauty', Go *hails* 'whole';

in endings cf. the dat sg of *ā*-stems (OCS *rǫcě*, from *rǫka* 'hand'), loc sg of *o*- and *ā*-stems (OCS *věcě*, *rǫcě*, from *věkъ* 'age', *rǫka*), loc pl of *o*-stems (OCS *věcěxъ*), nom-acc du of *ā*- and neuter *o*-stems (OCS *rǫcě*, *věcě*, from *věko* 'eyelid').

Further examples are OCS *cěna* 'price', *cěsarь* 'emperor', R *cedít'* 'strain', OSC *cěća* 'because of', etc.

b) Before i_2. The nom pl of masc *o*-stems and imp forms of the first class verbs (OCS *věci*, from *věkъ*; *rьci*, from *rekǫ* 'say'; cf. pl. *rьcěte*).

c) In loan words before front vowels other than $\check{e}_2$:

OCS *cęta* 'small coin', U *cjáta* 'trifle', P *cętka* 'fleck', Cz *ceta* 'small coin', OSC *cȅta*, from Go *kintus* 'a coin';

OCS *crьky* 'church', R *cérkov'*, Br *carkvá*, U *cérkva*, P *cerkiew*, LS *cerkej*, US *cyrkej*, Pb *cart'ái̯* (zerkcheý), Cz *církev*, Sn *cèrkev*, SC *cȑkva*, M *crkva*, Bg *cŕkva*, from Go **kirikô* 'church' or a cognate;

R *Cidel'*, river-name (Kaluga area), from Balt (Cf. Li *Kidulių*, gen pl).

B. Reflexes of *g*. a) Before $\check{e}_2$:

Examples in other than predesinential position are extremely rare. Usually the following is cited:

OCS *ʒělo* 'very', OR *zělъ* 'strong', OCz *zielo* 'very', Sn *zelô* – cf. Li *gailùs* 'irascible', Le *gails* 'voluptuous', Go *gailjan* 'cheer'.

In endings the same categories are represented as for *k*: dat sg of *ā*-stems (OCS *noga* 'foot' : *noʒě*), loc sg of *o*- and *ā*-stems (*rogъ* 'horn' : *roʒě*, *noʒě*), loc pl of *o*-stems (*roʒěxъ*), nom-acc du of *ā*- and neut *o*-stems (*noʒě*, *iʒě*, from *igo* 'yoke').

b) Before i_2, in the nom pl of masc *o*-stems (*roʒi*) and in imp forms of first class verbs (*strigǫ* 'cut hair' : *striʒi*, cf. pl *striʒěte*).

c) In loan words before front vowels other than $\check{e}_2$:

Sn *Zilja*, river-name, from OHG *Gīla* (now *Gail*);

Cz *Řezno* 'Regensburg', from *Regina* (*Castra*).

C. Reflexes of *x*. a) Before $\check{e}_2$. Examples are not numerous:

RChSl *sěrъ* 'gray', R *séryj*, U *síryj*, Sn *sệr*, vs. P *szary*, LS *šery*, US *šěry*, Sk, Cz *šerý*, from Germ **haira-* (ON *hárr* 'gray', AS *hár*, cf. Ir *ciar* 'dark'); the same root, with another suffix, is represented in OCS *sědъ* 'gray', R *sedój*, Sn *sệd*, SC *sêd*, vs. P *szady*, LS *šeźiwy*, US *šedźiwy*, Sk, Cz *šed(iv)ý*.

In endings the same categories as above: dat sg of *ā*-stems (OCS *utěxa* 'comfort' : *utěsě*, P *uciecha* 'joy' : *uciesze*), loc sg of *o*- and *ā-stems* (OCS *praxъ* 'dust' : *prasě*, LS *proch* : *proše*; OCS *utěsě*, P *uciesze*), loc pl of *o*-stems (OCS *sluxъ* 'rumor' : *slusěxъ*, P *Włochy* 'Italy' : *we Włoszech*), nom-acc du of *ā*- and neut *o*-stems (OCS *muxa* 'fly' : *musě*, LS *mucha* : *muše*).

b) Before i_2: in the nom pl of masc *o*-stems (OCS *slusi*, Cz *Cech* 'Czech' : *Češi*[1]).

[1] Instead of *š* P and Sk (more precisely Standard Sk, CeSk and partly ESk dialects) have *s* in these forms: P *mnich* 'monk' : *mnisi*, nom pl, Sk *mních* : *mnísi*, etc. In P these are new forms attested from the seventeenth century. They arose from morphological leveling: in forms of the type *chłop* 'peasant' : *chłopi* *-i* became an earmark of personal-masc subgender; hence it spread to the forms of the type OP *mniszy*; and since in P *š* is not admitted before *i*, [ś] was substituted for *š*.

For Sk this explanation would not be valid, for in Sk *i* is admitted after *š*. Furthermore, in those few CeSk dialects which still preserve alternation of velars in the dat-loc of *-a* subst (*mucha* 'fly' : *muse*, Turiek region, vs. Standard Sk *muche*) it is also *s* and not *š* which occurs in these cases. Hence the view was advanced that the development *x* > *s* is the normal development in (Central) Sk (Važný, Novák, Stanislav). This is refuted however by the words *šedý*, *šedivý* 'gray' with

3. Preservation in the Sl languages; identification. Except for *c*, which is fairly well rooted in Sl, the reflexes of the second palatalization of velars are poorly represented in the living Sl languages. Initially, *ʒ/z* and *s/š* occur virtually in one root each; of the two roots the first is still used only in Sn, the second one is lost in SSl.

Otherwise the reflexes of the second palatalization occur only as alternants of velars in the declensional and conjugational forms enumerated in section 2. The natural tendency was to eliminate these alternations; many modern Sl languages did so, either completely or partially. The following table shows the situation:

	Dat-loc fem	Loc sg masc	Loc pl masc	Nom pl masc	Nom-acc du fem and neut	Imp	Positions in which the alternation is preserved
R	—	—	—	—	—	—	0
Br	+	(+)	—	—	—	—	1 + (1)
U	+	(+)	—	—	—	—	1 + (1)
P	+	—	—	(+)	—	—	1 + (1)
LS	+	(+)	—	—	+	—	2 + (1)
US	+	(+)	—	(+)	+	—	2 + (2)
Sk	—	—	—	(+)	—	—	(1)
Cz	+	—	+	(+)	—	+	3 + (1)
Sn	—	—	—	—	—	+	1
SC	(+)	—	+	(+)	—	+	2 + (2)
M	—	—	—	(+)	—	—	(1)
Bg	—	—	—	(+)	—	—	(1)
	6 + (1)	(4)	2	(7)	2	3	

Dialectal facts are not taken into account, nor are isolated relics like P loc pl *we Włoszech* 'Italy', Sn nom pl *otróci*, loc pl *otrộcih* 'child', etc. Pb is not included because its forms are ambivalent, due to the general loss of hushing consonants. A plus in parentheses means that the use of forms with the alternations is limited as compared to its original status.

It is apparent from the table that the most radical in eliminating the alternation was R, followed by Sn and Sk; the most conservative was Cz, followed by US and SC. The alternations are best preserved in the dat-loc sg of subst fem in *-a* and in the nom pl of masc (original *ā*- and *o*-stems respectively). Geographically the distribution is scattered; one may conclude that as a rule it took shape in the histories of individual Sl languages, not groups of them.

The identification of *c*, *ʒ/z*, *s/š* in morphological categories is easy on the basis of the above table. As to the initial position, virtually all the roots in-

their *š*-. The contention that these forms are borrowed from other, i.e. WSk dialects can be neither proved nor disproved. Scarcity of OSk texts makes it impossible to establish the situation in OSk. There are records with *š* (e.g. *walaszy*, 1664, Nenešova, Trenčín area), but they may be discarded as WSk. Thus all the data are inconclusive and the question whether in its second palatalization *x* in (Ce)Sk yielded *s* or *š* or *ŝ* in initial position and *s* elsewhere must remain open.

volved are cited in section 2, except probably in proper names; otherwise the evidence of OCS is sufficiently illuminating for *c* and *ʒ*: all initial *c*, *ʒ/z* result from the second palatalization; for *s* this is established by parallels with WSl *š*.

4. Alternations in the clusters *sk, zg*. Development of *k, g* before e_2, i_2 had certain peculiarities if these velars were preceded by *s, z*. The presence of *s, z* operated as a conservative factor or, more often, it prompted special changes in the reflexes of *k, g*. Examination of these cases may shed additional light on the original reflexes of *k, g* before $\check{e}_2$ and i_2 and their dialectal distribution.

The hindering effect of the cluster *zg* is evident in LS. In this language **ʒ* simplified into *z*, as in most Sl languages. But in the cluster *zg*, *ʒ* from *g* is retained: dat-loc of *noga* 'leg' is *noze*, but from *mězga* 'sap', *rozga* 'twig' it is *mězdze, rozdze*.

Conversely, in OCS the expected cluster *sc, zʒ* had a tendency to dissimilate into *st, zd*: along with *sc* are found also *st*-forms, particularly characteristic of Ass and Su: *ljudьstii* from *ljudьskъ* 'human', *pastě* from *paska* 'Easter', *dъstě* from *dъska* 'board', *dręzdě* from *dręzga* 'chip', etc. These changes in OCS reflect the underlying SESl (M and Bg) dialects[2]. In initial position, however, the development was different, so far as one can judge from the scanty examples available. Here *c* has been preserved but preceding *s* dropped, e.g. Sn *cêpati* 'split', SC *cépati* 'cut (wood)', M *cepi* 'split', Bg *cépja* – cf. Gr σκοῖπος 'beam', σκίπων 'stick', La *scīpiō*, OHG *scivaro* 'splinter';

Sn *(o)céranje* 'grimace', SC *cȅriti* 'grin', M *ceri se* 'leer'; for further correspondences see below;

SChSl *scěglъ* ~ *cěglъ* 'only', SC *cȉglī*; for further correspondences see below.

Surprising facts are found in certain OR texts. Geographically they may be attributed with a high degree of certainty to the Kiev-Poles'e group of dialects, which gave rise to the SBr and NU dialects of our time. In initial position *sk*-clusters occur seemingly unchanged:

with the root **skₒaip-* represented in SSl, as quoted above, by *cep-* one finds *skěpišče* 'shaft' (Hyp), *proskěpъ* (Kiev Chr); that these forms were not artificial is evident from their continuation in Br *sképka* 'pinch', U *skípka* 'chip';

with the root **skₒair-* represented in SSl as *cer-* Br dial has *škéryc'* 'grin', U *škíryty* ~ *skíryty*; forms of this type spread also along the Carpathians to Sk (*škerit'*) and Moravian dialects of Cz (*škeřiti*);

Br *škélic'* 'grin' and U *škiljuváty* have no established etymology. They may be cognates of Le *šķieva* 'cleft' (the root represented in OCS *cěvьnica* 'flute', with typical SSl *c-* and in Br *skívica* 'jaw' with typical Kiev-Polesian *sk'*) blended with the root of R *skálit'* 'grin', etc.

The evidence concerning stem-final position is scarce. In Br and U of a later date forms of the dat-loc sg with *c, z* as alternants of *k, h* (< CSl *g*) are the rule: not only Br *ruká* : *rucě* 'hand', U *ruká* : *rucí* but also Br *dóška* : *dóšcė* 'board', U *dóška* : *dóšci*. Yet apparently in the eleventh – twelfth centuries it

[2] MM and MBg texts also have predominantly *st*.

was not *c* but *k* that was used after *s*. In SkBorGl forms of the type *vъ knjaženii pinьskě* 'in the principality of Pinsk', *vъ rusьskě* (~ *rusьskěi*) *zemli* 'in Rus' land' (several times), *Smolinьskě* 'in Smolensk' (loc sg) are the only ones used. The difference between the treatment of *k* after *s* and that in other positions is clear in phrases of the type *vъ rusьskěi storoně velicěi* 'in the great land of Rus'' where the two treatments occur beside each other. In the fragment of the Life of St. Kondrat copied in the eleventh century from an OCS original it was first written *po dъscě*, then erased and changed into *po dъskě* 'on the board'.

From the position before $ě_2$ the apparently unchanged cluster *sk* spread limitedly to the position before other front vowels. In MoU this is represented by *skélja* 'cliff' where other Sl languages, as well as WU dialects not arisen from Kiev-Poles'e dialects, have *a* (R, WU *skalá*, etc.). The form is not attested in OKievan texts. For the forms *skъrbь* ~ *skorbь* 'sorrow' the latter have *skьrbь* ~ *skerbь* (Izb 1073, SkBorGl, Life of Feodosij, etc.) which have no continuation in Mo Br and U[3]. Because of the scarcity of examples and complete lack of any which could be traced from the eleventh century to our days, it is impossible to establish whether the spread of *sk* before front vowels other than $ě_2$ and i_2 was a regular phonetic change or an occasional infringement. But the presence of *k* after *s* in the position before $ě_2$ (and i_2 ?) may be considered certain. The graphic *k* was here undoubtedly for [k'] (thus ushering in the change of *ky*, *gy*, *xy* into *k'i*, *g'i*, *x'i* which occurred in the Kiev-Poles'e dialects immediately after).

Theoretically *k'* before $ě_2$ could have been either a direct continuation of *k* prior to the metathesis of **oi* (*₀ai*) into *ě*, or could have developed from *c* secondarily (thus *k* > *c'* > *k'*). Of these two possibilities the second is the only plausible. There is no phonetic reason to assume that while *k* changed into *c* before $ě_2$ and i_2, preceding *s* could have hampered this development. But further dissimilation of *sc'* into *st'* (as in Proto-M and Bg) is a trivial development. On the other hand strongly palatalized *t'* could easily slip to *k'*. Optional interchange of palatalized velar stops and palatalized dental stops is attested by the forms of the name *Gjurgij* ~ *Djurdij* 'George' in the old Kiev-Poles'e dialectal group.

Thus for Kiev-Poles'e dialects the formula is:

before $ě_2$ and i_2 : *k* > *c'*
sk > **sc'* > **st'* > *sk'*.

The first stage in the change of *sk* was shared with Proto-M and Bg dialects (as well as other SSl and ESl); in word-internal position the second stage, *st'*, also was shared; but the Kiev-Poles'e dialects extended it to the initial position; and they alone proceeded from *st'* to *sk'*. Later, under the influence of morphological levelings and contacts with other ESl dialects, *sk'* in word-internal

[3] R *Kerč'*, U *Kerč*, city-name (Crimea), is not an example of *k* appearing before front vowels in the old Kiev-Poles'e dialects. The old form of the word is consistently *Kъrčevъ* and *e* after *k* is of later date and due to mediation of non-Sl population (Abaev).

position was eliminated and *sc'* restored. In initial position *sk'* has been retained[4].

While SSl and ESl had originally changed *sk* to *sc* before $\check{e}_2$ and i_2, with the various other reflexes having developed quite early from this *sc*, the oldest reconstructible forms for WSl are *šč*, *žǯ*. In Sk and Cz these clusters simplified into *šť*, *žď* in all positions, but *šč*, *žǯ* are still found in OCz. In P *šč* is preserved only word initially, but in OP it is well attested also in other positions. For the roots cited above in their SSl and ESl forms the WSl correspondences are:

SC *cépati* 'cut', U *skípka* 'chip', etc. – P *szczepać* 'split', LS *šćěpaś*, US *šćěpać*, OCz *ščiepati* (Cz *štípati*);

SC *cȅriti* 'grin', U *skíryty*, etc. – P *szczerzyć*, LS *šćěriś*, US *šćěrić*, OCz *ščieřiti* (Cz *štěřiti* ~ *štířiti*) – cf. Li *skìrti*, OHG *sceran*;

SC *cȉglī* 'only' – P *szczególny* 'particular', Sk *štíhly* 'slender', Cz *štíhlý*, with no certain correspondences in other IE languages.

Examples in word-internal position are supplied by regular alternation before endings beginning in $\check{e}_2$, i_2, e.g. OCz *vojsko* : *vojščě* 'army', *dška* : *na dščě* 'board', *nebeský* : *nebešči* (nom pl masc) 'celestial', *miezha* : *mieždě* (Mo Cz *míza*) 'sap', – cf. Mo Cz *vojště* (arch), *nebeští*, etc. OP had *Polska* : *Polszcze* 'Poland', *deska* : *deszcze* 'board', *wojsko* : *wojszcze* 'army'. Later under the influence of the regular alternation *k* : *c* the latter was reintroduced into the cluster *šč* alternating with *sk* (and *ʒ* probably into the cluster *žǯ* alternating with *zg*) and thus the modern forms of the type *Polsce*, *desce*, etc. arose. The same is to be assumed for LS with its *kralowski* 'king's' : nom pl masc *kralowscy*. Br, U *Pol'šča* 'Poland' as well as simplified R *Pol'ša* go back to the OP loc sg form, retaining the alternant that has been lost in P itself.

The occasional *šč* instead of the expected *sc* in the declensional alternations of *sk* that was observed in a few ONBr texts, e.g. *v Vitebъšče*, *u Smolenъšče* (Vitovt's charter, 1399), etc., had hardly anything to do with the reflexes of *sk* before $\check{e}_2$. It was a manifestation of the confusion of hushing and hissing consonants, an earmark of the Pskov area in the broad sense.

WSl *šč* < *sk* before $\check{e}_2$ and i_2 sheds light on the original reflex of *x* in WSl in the same position. As stated in section 1, its reflex in WSl was *š* as opposed to *s* in S and ESl. In the reflexes of the cluster *sk*, *š* is again attested. But here it goes back to *s* which obviously was palatalized by assimilation to the following *c'* from *k'*. It should have been strong (dorsal, not coronal) palatalization and it was from this dorsally palatalized *ś* that *š'* arose. The same sequence may be assumed also for the reflexes of *x* : *x* > *ś* > *š*. The developments of *x* in WSl as presented in this formula were different from the second palatalization of *x* in S

[4] If in the initial position Br and U as continuators of the Kiev-Poles'e dialects have *šč* forms along with *sk* forms, it is due to the interplay of forms with different grades of root vowel: *sk-* before $\check{e}_2$, *šč* from the first palatalization of velars before *i* (< *ī*, *ei*), *ь*. Hence Br *(pry)ščapić* 'graft', U *ščepýty*; Br *ščéryc'* 'grin' and the blended Br *škéryc'*. Forms with *šč* can encroach upon the roots with $\check{e}_2$ and, conversely, forms with *sk'* can spread to the position before other front vowels.

and ESl, where coronal palatalization is to be assumed: $x > s'$. As to why *ć*, *ʒ́* in WSl did not change into *č*, *ǯ* in all other positions, see section 8.

The main lines in the development of *sk* clusters before $\check{e}_2$ and i_2 may be presented in the following diagram:

	South Slavic		Eastern Slavic		Western Slavic		
		M, Bg		KP		Sk, Cz	P, So
Initially	*sc'* > *c'*		*sc'*	> *st'* > *sk'*	*ść* > *šč*	> *št'*	
Internally	*sc'*	> *st'*	*sc'*	> *st'* > *sk'* | *sc*	*ść* > *šč*	> *št'*	|*sc*

where > indicates phonetic change; |, morphological substitution; KP, dialects of Kiev-Poles'e group.

5. Problem of intermingling reflexes of the second and the first palatalizations of velars. The reflexes of the second palatalization of velars are in general kept strictly apart from the reflexes of the first palatalization, except of course in those languages and dialects in which hushing consonants have been eliminated completely (as Pb) or partially (LS, where *č* > *c*). If there are encroachments upon the domain of the other type of palatalization, they are caused mostly by processes of secondary morphological derivation. E. g., Cz *stezka* 'path' instead of the expected ⁺*stežka* (U *stéžka*, P *ścieżka*) only means that CS **stižik*ₒ*ā* was lost in Cz and that a new derivation took place from **stiʒ*ₒ*ā* (where *ʒ*, later *z*, arose from the third palatalization of velars, see 23,2). In the same way Cz *penízek* 'small coin' is a secondary derivation from *peníz* 'money'. P *w Niemczech* 'in Germany', MP *w Turczech* 'in Turkey' demonstrate a tangential development in the opposite direction, from *c* (as expected before $\check{e}_2$), toward *č*. Yet *Niemczech* is known from the sixteenth century (Kochanowski), and in general these *č*-forms are an obvious innovation of that century. It was induced by *š* forms of the type *we Włoszech* 'in Italy' with alternation of velar : hushing, and found acceptance because of the tendency to differentiate names of countries from those of their inhabitants (toponyms opposed to appellatives) (See also section 8).

A more complicated interplay of facts and one of more ancient date is found in the word meaning 'sulphur': SChSl *sěra*, R, Br *séra*, U *sírka*, Bg *sjára*. The root seems to be the same as in R *séryj* 'gray', U *síryj*, with WSl parallels beginning in *š*: P *szary*, etc., as cited in section 2 Ca. But in words for sulphur WSl unexpectedly but consistently presents initial *s*-: P *siara*, Cz *sirka* 'match'. OCz however did not have **siera* (with *ie* reflecting *ě*) but only *síra*, and Sk *sírka* 'sulphur' points to the same. There are two possible explanations for these contradictory facts. It might have been a migratory word borrowed from an unknown source by the Proto-Cz tribes and transmitted eastward, where it was associated secondarily with the Sl word *sěrъ* 'gray'; the conspicuous absence of the word in SSl, except Bg, where it may be a borrowing from R, would confirm this assumption. It also has a parallel in the spread from west to east of the word borrowed from La *cēra* 'wax', attested in OR (Kiev) as *cěrъ* 'tinder' and preserved in Mo Br as *cěra* 'tinder'. Alternatively one may assume that *sěra* had an old IE root alternating *oi* : *ei* : *ī* and admitting two different beginnings: *s*- (preserved as *s*-) and *ks*-, which yielded *x* (> *š*).

The vulnerable point of the first explanation is that the source of borrowing remains unknown. The second explanation has little plausibility. It is hard to imagine that an IE word of old age, as attested by vocalic alternations and consonantal variants, left no traces in any IE languages except (W and E) Sl.

If the theory of borrowing is accepted the facts have no bearing on our under-

standing of the second palatalization of velars, as the word, then, never had a velar and its association with *sěr-* 'gray' is secondary.

No information about the second palatalization of velars is supplied by P *sędziwy* 'elderly', P dial *siadocha* 'grayhaired person'. These forms are based on *szady* 'with gray hair' but they are of later date and resulted from contacts with *mazurzenie* dialects (which discontinued old hushing consonants) and an interplay of folk etymology (Cf. *sędzia* 'judge', *siadać* 'sit') with its often whimsical blendings of meanings and roots.

Thus, the deviations from the rules of the second palatalization of velars are of more recent times. No overlapping of the first and second palatalizations occurred at the time of the second palatalization. It operated quite consistently.

6. Palatalization of velars before *v* followed by $\check{e}_2$. Dialectally the second palatalization of velars spread also to those velars which were separated by *v* from following $\check{e}_2$ .This is typical of SSl; in ESl the facts are confused but a more attentive analysis leads one to suppose that the major part of ESl followed the same trend as SSl, with the probable exception of the Kiev-Poles'e dialects.

The pertinent facts are few. In initial position there are two roots with *kv-* followed by $\check{e}_2$ and one root with *gv-* followed by $\check{e}_2$; in middle position there is one root with attested alternation of *xv* before i_2:

P *gwiazda* 'star', LS *gwězda*, US *hwězda*, Sk *hviezda*, Cz *hvězda* – vs. OCS *ʒvězda*, R, Bg *zvezdá*, Sn, SC *zvézda*, M *ʒvezda* – as compared to Li *žvaigzdė̃*, Le *zvàigzne*, OPr *svāigstan* 'shine' (acc sg), Gr φοῖβος 'bright'. The word is unknown in Br and CeU except as a ChSl loan word; a reflex of the Kiev-Poles'e form may be seen in Br dial (Brjansk) *ahvjazdzíc'* 'hit'[5];

P *kwiat* 'flower', LS, US *kwět*, Sk *kvet*, Cz *květ* – vs. R *cvet*, Br *cvet* 'bloom', Sn *cvẹ̑t* 'flower', SC *cvêt*, M *cvet*, Bg *cvjat*; U *kvít(ka)* goes back to Kiev-Poles'e forms while U dial *cvit* is based on SW (Halyč-Podolia) dialects; scattered forms *kvet* ~ *kvétka* in R dialects (Opočka, Ostrov, Tula, even Povenec and Archangel) are to be accounted for by migrations from the Kiev-Poles'e area. Non-Sl parallels are scarce. Only Le *kvitêt* 'flicker' may be cited;

P *kwilić* 'wail, lament', Sk *kvílit'*, Cz *kvíliti*, *kvěl(ba)* 'lament' – vs. R *cvelít'* 'torture', U dial *cvilýty* 'beat', Sn *cvẹ́liti* 'torment', SC *cvéliti* 'plague', besides R dial *kvelít'* 'tease'[6], U *kvylíty* 'wail' reveal a confusion of *kv-* and *cv*-forms in ESl brought about not only by a mixture of dialects but also by the interplay of forms with various grades of the root vowel: *ě* (before which *kv-* > *cv-* in all dialects except of Kiev-Poles'e) : *i* : ь (no phonetic change of *kv-* is expected before either[7];

[5] The discrepancy between Sl *g-* and Balt *ž/z* indicates either metathesis or assimilation of initial *z-* to following *-g-* in Sl: $*zv_oaigzd_oā$ > $*gv_oaizd_oā$. Cf. the play of assimilations and metatheses in another root of similar structure: Br *žarstvá* 'pebbles', U *žorstvá* – vs. SC dial (Montenegro) *zvr̂st* 'kind of stone', R dial (Čerepovec) *gversta* 'coarse sand', Br dial (Boroviči) *xverst'* – as compared with Li *žvir̃zdas* 'coarse sand', Le *zvìrgzds*, Av *zarstva-* 'stone'.

[6] Cf. in Pasternak: "Šúročka . . . *kvelílsja*, kak govorját njáni" (*Doktor Živago*, 282).

[7] The spread of palatalization to So (LS *cwiliś*, US *cvilić* 'torment'), unusual as it is, can be accounted for by the affectivity of the word.

OCS *vlъxvъ* 'magician' is attested in nom pl form *vlъsvi* with *s* from *x* before $v + i_2$; cf. also OR *vьlsvi*. The other root ending in *xv*, OCS *lixva* 'usury' unfortunately does not occur in loc sg in OCS or OR texts. P *chwiać*, *chwieję* 'sway', LS *chwjaś*, Sk *chviet' sa*, Cz *chvíti* is inconclusive because it is virtually unrepresented in those languages in which the change $x > s$ would be expected. The rare RChSl *xvějati sja* might have been a Moravianism in ChSl, U dial *xvíjaty* is a borrowing from P.

To these examples a few more may be added, but they are risky because of their onomatopoeic character, e.g. P *gwizdać* 'whistle', US *hwizdać*, Sk *hvizdat'*, Cz *hvízdati* vs. R dial *zvíznut'* 'hit', U *dzýznuty*, Sn *zvízdati* 'whistle', SC *zvíznuti* (See also 24,3).

As shown by the above examples, *kv*, *gv*, *xv* changed into *cv*, *ʒv*, *sv* phonetically only before $\check{e}_2$ and i_2, but if $\check{e}_2$ in the same root alternated with *ĭ* the new forms occasionally are found in these positions, too. This was however a morphological leveling, not a phonetic change. The palatalization never took place before $v + \breve{\imath}$ if in a given root $\check{e}_2$ and/or i_2 did not occur, e.g. OCS *skvrьnъ* 'impure', R *skvérnyj* 'bad', Sn *skvȓna* 'stain', etc.

Lack of palatalization of velars before *v* in WSl and Kiev-Poles'e dialects may easily be tied in with the peculiarities of these dialects as established in section 4: in WSl the palatalization was precluded by the strong (dorsal) character of the second palatalization; such a strong palatalization could not, so to speak, spread through *v*; in the Kiev-Poles'e dialects the palatalization was unnecessary because of the reintroduction of *k'*.

7. Chronology. The relative chronology of the second palatalization of velars is firmly established in relation to the monophthongization of *₀ai* into $\check{e}_2$: the second palatalization took place immediately after or simultaneously with this monophthongization. As the latter was placed in the sixth – seventh century (See 20,5) the second palatalization is to be placed in the same period.

These considerations are confirmed by an analysis of loan words and place-names. Particularly abundant is the evidence of place-names of Rom origin in the Balkans, e.g.: *Serdica* is rendered *Srědьcь*, **cīvitāte* – *Captat*, *Cibrica* – *Cebro*, *Castellaceus* – *Kostolac*. The Ill-Rom city-name *Tergeste* could have become *Trst* only by passing through the stage with *z* (< *ʒ*) **Tьrzьstъ*, so that *z* and *s* after the loss of *ь* merged in *s*. These changes are to be ascribed to Sl, not Rom, because Dalm preserved *k* before *e*, SDalm also before *ī*.

The reflexes of the second palatalization are also found in loan words of Rom and Balkan-Germ origin, e.g. OCS *ocьtъ* 'vinegar' < La *acētum* (Cf. Go *akēt* ~ *akeit*); OCS *sracine* 'Saracens' < MLa *saracēn(us)* or Gr σαρακην(ός). If the words contained *ʒ* in the next syllable (due to progressive palatalization of velars, see 23,2), *c* reconstructible from *k* lost ist affricative character and dissimilated into *t*, e.g. SChSl *vitęʒь* 'hero' < Germ **víking-* (ON *víkingr*), RChSl *retjazь* 'fetters', OP *rzeciądz* < Germ **reking-* (ON *rěkendi* ~ *rěkendr* 'chain').

Est borrowed its *kāv* 'bobbin' (R *cévka*) before the second palatalization of velars.

The margin of time between the first and the second palatalization of velars was narrow. The second palatalization was literally treading on the heels of the first. Yet, as shown in section 5, there are virtually no overlappings of the two. This leads to the conclusion that besides the rather negligible separation in time there was an essential difference in character. The initial impetus to the first palatalization was given by the influence of *j*. This bestowed a hushing character upon the reflexes of the first palatalization, even when the first palatalization spread to the positions before all the front vowels of CS at the time. On the other hand, the second palatalization was initiated in words with ${}_{e}a$ after velars; from the very beginning, thus, its resulting consonants had a different character. They were in most dialects not hushing, not palatal but palatalized. Consequently, for the initial stage of the second palatalization before $\check{e}_2$ and i_2 one need not assume that the first palatalization was no longer operating. It is not impossible that for a certain period both palatalizations were porductive simultaneously, to wit the first palatalization before *ĭ* only, i.e. shrunken in scope, and the second palatalization before *ě* (${}_{e}a$). It is the testimony of loan words, in which the second palatalization was extended to positions other than before *ě*, which shows that the productivity of the first palatalization ceased earlier than that of the second palatalization. In sketchy outline:

First stage: First palatalization operating before all front vowels.

Second stage: First palatalization operating before *ĭ* and second palatalization operating before *ě* (${}_{e}a$).

Third stage: Second palatalization operating before all front vowels.

Roughly, the first stage may be referred to the fifth – sixth century, the second to the sixth – seventh, and the third to the seventh – eighth.

In WSl the close connection between the first and the second palatalization is reflected in the fact that *ś* from *x* was identified with the results of the first palatalization of *x* and became *š*. If this did not occur with *c'* and *ʒ'* (or *ć*, *ʒ́*) resulting from the second palatalization, this is to be ascribed to the fact that they were identified with the reflexes of *tj* and *dj* which early became *c'* and *ʒ'* (from *ć* and *ʒ́*) so that

š (from first palatalization) ←	*s'* > *ś* (from second palatalization)	
ž	*ʒ'* →	*ʒ́* > *ʒ'* (from *dj*)
č	*c'* →	*ć* > *c'* (from *tj*)

As the arrows show, *ś* was attracted by *š* while *ʒ́*, *ć* coalesced with the reflexes of *dj*, *tj*.

In establishing relative chronology of *tj*, *dj* changes in relation to the second palatalization of velars one may assume that *tj*, *dj* were changed earliest in ESl and Sn where their reflexes coalesced with those of the first palatalization of velars; in WSl (except Sk, see below) the *tj*, *dj*-development occurred at the time of the second palatalization. In SC, M and Bg the facts are inconclusive, for all three series are kept strictly apart. Graphically:

	First palatalization			Dental stops ÷ *j*		Second palatalization		
	x	*k*	*g*	*tj*	*dj*	*k*	*g*	*x*
ESl	*š*	*č*	*ž*	*č*	*ž*	*c*	*ʒ* (> *z*)	*s*
P, So, Cz	*š*	*č*	*ž*	*c*	*ʒ* (> *z*)	*c*	*ʒ* (> *z*)	*š*
Sn	*š*	*č*	*ž*	*č*	**ǯ > j*	*c*	*ʒ* (> *z*)	*s*
SC	*š*	*č*	*ž*	*ć*	*ʒ́*	*c*	*ʒ* (> *z*)	*s*
M, Bg	*š*	*č*	*ž*	*št*	*žd*	*c*	*ʒ* (> *z*)	*s*

Sk is not included in the chart. It differs from the rest of the WSl languages in that it distinguishes between reflexes of *dj* (> *ʒ*) and those of *g* which underwent the second palatalization (**ʒ* > *z*). This implies that the reflexes of *dj* and *g* were either not identical qualitatively or that by the time *dj* changed into *ʒ*, the older *ʒ*, from *g*, had been simplified into *z*, that is it implies a relatively late development of *dj*. The first assumption is hardly plausible because the unvoiced reflexes (of *tj* and *k* in the second palatalization) do not differ in Sk, and nothing indicates that their developments could have differed at the outset from those of their voiced counterparts, except in voicing; this would have been an unprecedented case in the history of any Sl language. In all of these the voiced affricates underwent simplifications only in a later stage of the development, cf. R **ǯ* > *ž*, Cz **ʒ* > *z*, Sn **ǯ* > *j*, etc.

It is the second assumption that is to be accepted, thus establishing for Sk the following order of changes: first palatalization of velars, followed by the second palatalization of velars, and both followed by the change of *tj* and *dj*. This would account for the vacillations in the reflex of *x* having undergone the second palatalization, provided these vacillations are not later innovations. With this provision, the reflex of *x* was not separated from the reflexes of *k*, *g* in the second palatalization; it was preserved longer as *s*' and therefore finally yielded in certain cases *s*, not *š*. However, as shown in section 2, the chronology of these reflexes is dubious and nothing in Sk development really precludes admitting that *c*', *z*', *s*'(< *k*, *g*, *x*) existed as a separate series until *tj*, *dj* changed into *c*', *ʒ*', and that afterwards *c*' (< *k*, *tj*), *z*' (< *g*), and *ʒ*' (< *dj*) were dispalatalized simultaneously while *s*' being isolated evolved toward *ś* and then *š*.

Besides Sl the change of velars *k*, *g* before front vowels (as well as before *j*) into *c*, *ʒ* is attested in Le, e.g. OCS *živъ* 'alive', Li *gývas* but Le *dzîvs*, etc. The time of this Le change is certainly before 1200, probably between 900 – 1000 A.D. (Kiparsky). It is not impossible that a conducive factor was the contact of Proto-Le tribes with the Eastern Slavs while the second palatalization of velars was operating in the language of the latter, but for lack of positive data this assumption must remain but a possibility. It is interesting to point out that there is one more similarity in the treatment of velars in Le and ESl: Le like the dialects of the Kiev-Poles'e group has kept *k*, *g* intact after *s*, *z*, e.g. *šķel̂t* 'split', *režģis* 'grating'.

8. Outlook. The consonants *c'*, *z'*, *s'*/*ś* resulting from the second palatalization before $ě_2$ were not independent phonemes in relation to *k*, *g*, *x* from which they developed. Their appearance was conditioned positionally. Nor did they obtain phonemic status in their relation to *č*, *ž*, *š* because at that time these products of the first palatalization never occurred before *ě* (See 17,6). The situation was different in the position before *i*. Here both series, i.e. *c'*, *ʒ'*, *s'*/*ś* and *č*, *ž*, *š* were admitted, cf. OCS *člověci* (nom pl of *člověkъ* 'man') vs. *člověči* (loc sg fem from *člověčь* 'human'), *luci* (nom pl of *lukъ* 'leek') vs. *luči* (dat sg of *luča* 'ray'), *kъnęʒi* (nom pl of *kъnęʒь* 'prince') vs. *kъnęži* (loc sg fem of *kъnęžь* 'prince's'), etc. The spread of the new consonants to some loan words (like *cęta*, *crьky*, etc.) definitively established their phonemic status in all positions, not only before endings. Thus the number of consonantal phonemes in CS grew again, and along with the hushing (palatal) and velar series the series of palatalized dentals was introduced:

c'	*ʒ'*	*č'*		*k*	*g*
s'/*ś*		*š'*	*ž'*	*x*	

It is in the relations among these series that further dialectal simplifications find their partial explanation. The simplification of the voiced affricate *ʒ'* into *z*, which characterized all the Sl languages except P, Pb and partly OCS, was prompted by the tendency to establish symmetry with the relation of *č* vs. *ž* (voiceless affricate vs. voiced spirant).

This change in S and ESl resulted in complete symmetry of the subsystems of palatalized and palatal consonants:

c'		like	*č'*		(but unlike	*k*	*g*
s'	*z'*		*š'*	*ž'*		*x*	).

Also the system of alternations of velars remained symmetrical:

k : *č* : *c*
g : *ž* : *z*
x : *š* : *s*.

In WSl two different solutions began to appear, which can be labeled P type and Cz type. In the P type the system of palatalized consonants became (after *ś* > *š*) symmetrical with velar stops:

c'	*ʒ'*	like	*k*	*g*	(but unlike	*č'*	
						š'	*ž'*).

The odd position of *x* became obvious in the system, where it had no voiced counterpart, and in the alternations, where it had one alternant as opposed to *k*, *g* with their two alternants apiece:

k : *č'* : *c'*
g : *ž'* : *z'*
vs. *x* : *š'*.

The Cz type (including also Sk prior to the change of *dj* into *ʒ'*) arrived at a complete disintegration of the system:

c'		*č'*		*k*	*g*
	z'	*š'*	*ž'*	*x*	

This disintegration led to further changes. In Sk the introduction of *ʒ'* < *dj* filled the vacancy for the voiced counterpart of *c'*; in Cz, as well as in Sk, later change of *g* into *h* established the symmetry between the palatals and the velars:

c'	(*ʒ'*)	*č'*		*k*	
	z'	*š'*	*ž'*	*x*	*h.*

Independently of these partial simplifications, the second palatalization brought further excessive growth of the phonemic system creating a prerequisit for the loss of some other members of it; the second palatalization also further solidified the consonantal alternations. Whereas vocalic alternations inherited from IE were becoming more and more shaky and devoid of motivation, the consonantal alternations grew stronger and more important.

The new importance of consonantal alternations is visibly confirmed by their spread beyond their original, phonetically prescribed orbit. Spreading from velars, they encroached upon the domain of the dentals *t*, *d* and their alternants. This is obvious in WSl. For example, P has *świeca* 'candle' : dim. *świeczka*, and the same alternation occurs in US *swěca* : *swěčka*, Sk *svieca* : *sviečka*, Cz *svíce* : *svíčka*. In these words *c* arose from *tj* (Cf. OCS *světъ* 'light') which in these languages never yielded *č* phonetically. The alternation *c* : *č* was introduced in these diminutives on morphological grounds, according to the pattern P *owca* : *owieczka* 'sheep' where both *c* and *č* go back to *k* (Cf. OI *avikā́* 'sheep') or *ręka* : *rączka* 'hand', where *č* although of phonetic origin became a characteristic of diminutive formations (or, more broadly, -*k*-suffix formations).

The alternation *k* : *č* in adjectival derivation of the type OCS *rǫka* 'hand' : *rǫčьnъ* 'manual' was also transferred to roots with *c* from *tj*, as in Sk *noc* 'night' : *nočný* 'nocturnal', Cz *noc* : *noční* (P *nocny* and US *nócny* being more conservative); P *dziedzic* 'heir' : *dziedziczny* 'hereditary', US *dźědźic* : *dźědźičny*, Cz *dědic* : *dědičný* (Sk generalized the *č*-form from adj to the subst *dedič*!). Cf. also in such a different category as male vs. female: US *kocor* 'tomcat' : *kóčka* 'she-cat', Sk *kocúr* : *kočka*, Cz *kocour* : *kočka* (but P *kotka*).

Overlapping of the two alternation series, of the velars *k*, *g*, *x* and of the dentals *t*, *d*, with the former type spreading at the expense of the latter shows that certain alternants of velars became the earmarks of specific morphological categories. What was originally an excess of phonetic developments, apparently redundant in the total balance of the language, became neatly incorporated in the system of the language by finding its justification in the morphology.

That is to say also that the functional load borne by consonants was increasing. Speaking impressionistically, while a long series of preceding developments contributed to transforming CS more and more into a "vocalic" language, the palatalizations re-emphasized the part played by the consonants. These changes were the portents of the forthcoming mutation, the impending downfall of the vocalic type, which was to manifest itself in the reduction of some vowels (*ŭ*, *ĭ*) and their subsequent loss, in phenomena of metatony and, dialectally, in

loss of intonations and/or quantity. For the time under the scrutiny the student notes an increase in the number of consonantal phonemes, the enhanced part played by consonantal alternations against the background of a still very rich system of vowels, and the tendency toward a "vocalic" type of language still in effect.

9. Problem of the earliest dialectal divisions in CS. The second palatalization of velars is the first important Sl phonological development known to us which at least in part proceeded differently in various areas inhabited by the Slavs. For the first time one is dealing with dialectal peculiarities which cut the Sl territory into large regions. In the preceding changes some dialectal distinctions were also found, but they were of a more limited character: either they separated only a small part from the large Sl territory, i.e. they were typical peripheral developments (as M – Bg development of *tj, dj*); or they concerned only individual words, from a synchronical point of view peculiarities rather of the vocabulary than of the phonetic development as a whole.

Reference to these dialectal phenomena was given in the foregoing chapters. It is appropriate to recapitulate them briefly bringing them together in order to see more clearly what we know of CS dialects.

From minor discrepancies which concerned individual words the following were established:

a. *sem(ъ)* vs. *sedm(ъ)* 'seventh', opposing R, Br, U to other Sl languages (13,4);

b. *vajce* vs. *jajce* 'egg', opposing Sk and Cz to the rest of the Sl languages (16,6).

From peripheral phonetic changes:

c. different developments of *tj, dj*, finally leading to *št, žd*-clusters. It opposed Bg and partly M to other Sl languages (14,7);

d. earlier development of the first delabialization of *u*, as reflected in the doublets *libo* ~ *ljubo*, also opposing M and Bg to the rest of the Sl languages (18,6).

The phenomena of the second palatalization of velars oppose P, Pb, So, Sk, and Cz (i.e. traditionally WSl) to the rest of the Sl languages in the treatment of *x* (> *ś* > *š*, not *s'* > *s*), of the cluster *sk* (> *šč*, not *sc, st*) and of the clusters *kv, gv* before $\check{e}_2$. On the other hand the M – Bg complex again can be easily singled out on the basis of the treatment of *sk* (> *sc* > *st*), and the Kiev-Poles'e complex on the basis of the treatment of *sk* (> *sc* > *st'* > *sk'*) and *kv, gv*.

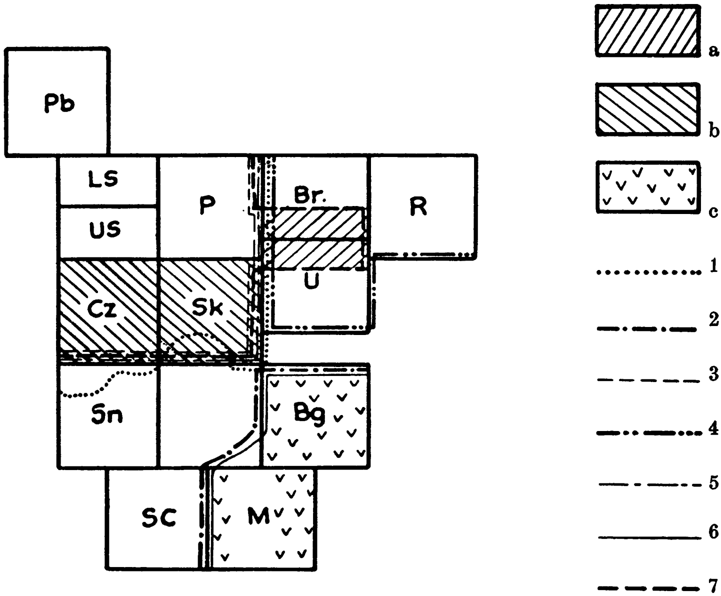
In addition, the treatment of the clusters *tl, dl* may be cited as belonging basically to the same period of time. A special development is typical of WSl but its isogloss runs across Sk and Sn (See 25,4).

These indications are all one can say about the dialectal division of CS up to the time of the second palatalization of velars. There is no doubt that CS was much more complex in this respect, but evidently most of the original dialectal divisions were lost at the time of the great migrations undertaken by the Slavs. In these centuries of movement and transition the whole make-up of the Slavdom

Diagram 1

Earliest dialectal divisions of CS

As it is impossible to reconstruct the precise areal distribution of the earliest divisions of late CS, the isoglosses are plotted on a schematic diagram based on an approximate location of the historically attested Sl languages.



Legend:

a. Area of *sk* > *sk'* before $ě_2$.
b. Area of *vajce* 'egg'.
c. Area of *tj*, *dj* > *št*, *žd*.
1. Southeastern boundary of unchanged *tl*, *dl*.
2. Northwestern boundary of vacillation *libo* ~ *ljubo*.
3. Southeastern boundary of *sk* > *šč* before $ě_2$.
4. Southwestern boundary of *semъ* 'seventh'.
5. Southeastern boundary of *x* > *š* in the second (and third) palatalization.
6. Northwestern boundary of *sk* > *st* before $ě_2$.
7. Northwestern boundary of *kv*, *gv* > *cv*, *ʒv* before $ě_2$.

was reshuffled many times. The relative uniformity of the reconstructed CS language is to a great extent the result of these levelings, which obliterated a great many dialectal features one would theorize for the lengthy preceding period. Our knowledge of CS is built up by the comparative method, to a lesser degree by the method of internal reconstruction. Neither, however, allows the student to reconstruct those dialectal divisions which were submerged without any trace at the time of the great migrations.

The isoglosses we are able to establish do not necessarily coincide with language boundaries of historical time. But by their distribution these isoglosses reveal clearly that the Sl language boundaries for the most part do not go back to a more remote period than that of the Sl resettlements of the fifth – eighth centuries. The peripheral character of the M – Bg group resulted from the fact that this section was the spearhead of the Sl *Drang nach Süden*. Otherwise it is the oppositoin between WSl and the rest of the Slavs which is most obvious. The eastern boundary of WSl derives from the relatively underdeveloped contacts between the Dnieper basin and that of the Vistula at the time of the migrations; in this period the Sl tribes of both areas were less interested in reciprocal contacts than in their respective expansions, both groups, independently, moving to the south, while at the same time the western group was pressing westward from the Vistula basin, and, the eastern, northward and eastward from the Dnieper.

As for the southern boundary of the Western Slavs, as it is known today, it was not established by the Slavs themselves, but was created in and after the seventh to ninth centuries by the wedges of German settlers (Austria) and the Hungarian invaders. In certain cases (treatment of the clusters *tl*, *dl*) feeble remnants of the old isoglosses broken by these wedges still may be discerned as they run across Central Sk and continue through Sn (Tesnière), but in other cases the old distribution is completely obliterated.

Thus almost nothing is known about the original dialects of CS. Isolated facts like the treatments of *semъ* ~ *sedmъ* or *vajce* ~ *jajce* witness existence of earlier dialects, but these dialects are irreconstructible for all intents and purposes. Only the new dialects of CS which began forming from the sixth century may be reconstructed at least to some extent.

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1. General statement. 2. Identification. 3. Examples. 4. Nasal infix and the so-called nasal doublets. 5. Nasal doublets conditioned phonetically. 6. Expressive nasalization and other factors causing nasal doublets. 7. Problem of nasalization before a second nasal consonant. 8. Problem of peculiarities in nasalization of *ĭ*, *ŭ*. 9. Chronology of the rise of nasal vowels. 10. Phonetic value and phonemic status of nasal vowels in CS. 11. Conditions and effects. 12. Vowel + nasal consonant in endings: non-front vowels. 13. Vowel + nasal consonant in endings: front vowels.

1. The trend toward the monophthongization of diphthongs which had begun in CS with the elimination of genuine diphthongs (*u* and *i*-diphthongs) now spread to functional diphthongs. First it encompassed those with a nasal second component.

Genetically these were of three kinds: 1) the *o*N, *e*N, *a*N type (N standing for *n* or *m*), going back to IE diphthongs of the same type; 2) the *i*N, *u*N type, from IE syllabic sonants (See 5,1); and 3) combinations of any vowel + N, which arose on morpheme boundaries, where originally there had been no diphthong because the vowel belonged to one morpheme and N to the other, as, e.g., the acc sg of *i*-stems, which ended in the theme *i* and the ending *m* (**kost-i-m* 'bone').

In the process of abolishing nasal diphthongs all three categories changed uniformly. The treatment did not depend on origin but only on position, prevocalic or non-prevocalic (i.e. preconsonantal or final). In prevocalic position the nasal consonant was attached to the following syllable and the shifted syllable boundary henceforth separated it from the preceding vowel. The diphthong ceased to exist as a unity but its components underwent no change, e.g. OCS *klьnǫ* 'curse' (1 sg) with syllable boundary running between *ь* and *n*: *klь|nǫ*.

In non-prevocalic position, where N could not be assigned to the next syllable, it was eliminated as a link in the speech sequence but its nasality was imposed onto the preceding vowel as a simultaneous (suprasegmental) feature. This gave rise to nasal vowels in CS. It is to be assumed that originally there arose as many nasal vowels in CS as there were non-nasal vowels. Yet in historical time only two nasal vowels are attested in Sl, either directly or in the traces they have left: one non-front rounded vowel conventionally noted *ǫ* and one front unrounded vowel noted *ę*. The first continued both ${}_{o}a$N and *u*N-diphthongs, the second both ${}_{e}a$N and *i*N-diphthongs. On the phonetic value of these two vowels see section 10.

2. Identification. Nasal vowels may be identified from Sl as well as from non-Sl IE languages. In Sl the only direct evidence may be drawn from OCS. In the Cyrillic alphabet both nasal vowels are denotated with special letters (ѫ for *ǫ*, ѧ for *ę*). With the exception of the few instances in which *ǫ* is confused with *u* (mostly in Mar and Cl) or *o* (PS) the information supplied by OCS is accurate and unequivocal. Of the other Sl languages only two have nasal vowels preserved: P and Pb. Like CS both display two nasal vowels: one non-front and one front, but the distribution of the two is by no means the original. In P there was a period of complete coalescence; at about the beginning of the sixteenth century the uniform nasal vowel (*ą*) split again into two, which happened to be once more *ǫ* (denoted *ą*) and *ę*. Their distribution was based on quantity in MP: *ǫ* represents MP *ą̄*; *ę*, MP *ą̆*, and they often alternate in the same morpheme, e.g. *wiązać* 'tie' : *węzeł* 'knot'. In addition, it is only in P spelling that nasal vowels are preserved in all positions. In phonetic reality *ę* denotes [ę] only before spirants and *ą* denotes [ǫ] only before spirants and in final position. Before *ł* nasalization is completely lost and so is the nasalization of *ę* in final position: *wziął*, *wzięła* 'took' (masc, fem), *rękę* 'hand' (acc sg) are pronounced [vźow], [vźewa], [reŋke].

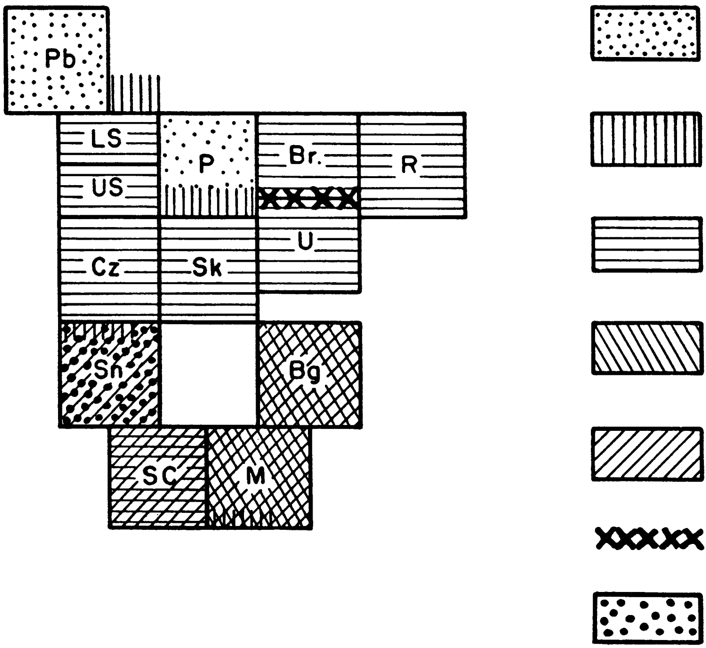
In Pb *ǫ* is represented as *ǫ̇* (denoted in the records mostly as *un*, *ung*, *um*) and *ę* as *ą* (*an*, *ang*). Yet *ǫ* changed into *ą* after palatal and palatalized consonants and, on the other hand, *ę* changed into *ǫ* before hard dentals, so that in Pb, too, reflexes of CS *ǫ*, *ę* partially overlap: *rǭkă* < **rǫka* 'hand', *mą* < **mę* 'me' (acc sg), but *smijǭ-sə* < **směјǫ sę* 'laugh' (1 sg), *jǭzĕk* < **językŭ* 'tongue' (runka, mang, smygansa, jungsick). In addition, if reduced, nasal vowels have lost their nasality and are represented by *ə* (usually in final position).

Traces of nasal vowels are found dialectally in Sn and M. In Sn the dialects of the Podjun valley of the Drava east of Klagenfurt (Celovec) in Carinthia preserve *ǫ* as *ǫ̇* and *ę* as *ą̇* (e.g. *rǫ̇k* 'hand', gen pl, *uzą̇w* 'took'). In M, too, relics of nasal vowels have been recorded in border areas, most of all in SW but also in S dialects near the lake of Prespa (dialects of Zrnosko, Stenje, Oreovo, Rambe, Lang), near Korcë (Korča) in SE Albania (Boboščica, Drenoveni), near Kastoria (Kostur) in Greece (dialects of Višeni, Žerveni, Smrdeš, etc.), and Thessalonike (Suho). Nasal vowels are preserved in these dialects unsystematically, in scattered words, and in most cases not as pure nasal vowels but as combinations of a non-nasal vowel with a nasal consonant, *n* or *m*, most frequently before *b* and *d*. E.g. from the dialect of Zrnosko: *zanbi* ~ *zambi* 'teeth', *klomko* (< **klǫbŭk-*) 'ball, clew', but also *gręda* 'ridge'; in Smrdeš: *zæmp* 'tooth', *čendo* 'child', etc. In standard M the word *janʒa* 'sickness; boring person' comes from these dialects. As seen from the examples, CS *ǫ* is reflected in M dialects as *a*N, CS *ę* as *e*N (*ę*), occasionally also as *a*N.

There are no direct traces of nasal vowels in other Sl languages. In all of them these vowels coalesced with some other vowels: *ǫ* yielded *ọ* in Sn, *a* in M, *ə* (ъ) in Bg, while in all other Sl languages its reflexes coalesced with those of u_2 (R, Br, U, LS, US, Sk, Cz, SC); its front counterpart, *ę*, is preserved as *e*, but

Diagram 2

Reflexes of nasal vowels in the modern Slavic languages



1. Nasality preserved.
2. Nasality partially preserved.
3. *ǫ* > *u*; without other shading also basically *ę* > *'a*.
4. *ǫ* > *a* or *ə*.
5. *ę* > *e*.
6. *ę* > *e* if unstressed.
7. *ǫ* > *o*.

without nasality, in SSl (Sn *ę*, SC, M, Bg *e*); in R, Br, U *ę* > *'a*[1], as also in Sk, except after labials. In the latter position *ę* is represented in Sk by a special phoneme *ä*: *päť* 'five' but *ťažký* 'heavy'. In US and Cz the reflexes of *ę* coincided essentially with those of *'a*. Finally, in LS the reflexes of *ę* do not differ basically from the reflexes of *ě*. Thus, only Sk *ä* points immediately to CS *ę*; all other reflexes of *ǫ* and *ę* are ambiguous. Yet the set of correspondences is unambiguous: R *u*, Sn *ǫ*, M *a*, Bg *ə* in the same morpheme could have arisen only from CS *ǫ*. In some morphemes an additional clue may be given by alternations of non-nasal vowels with (a vowel +) a nasal consonant, e.g. R *vrémja* 'time' : *vrém-en-i*, gen sg; Cz *títi* 'hit' : *tnu*, 1 sg; SC *žȅti* 'reap' : *žnjêm* ~ *žȁnjēm*, M *početok* 'beginning' : *počne* 'begin'; U *dúty* blow' : *dmu*, 1 sg.

As to identification from non-Sl IE languages, the CS nasal vowels have two different sets of correspondences depending on whether they developed from IE vowel + N or from IE N̥. In the first case they correspond in the main IE languages used for comparative evidence (OI, Av, Arm, Gr, La, OIr, OHG, Li) to the combination vowel + N; the quality of the vowel varies, but for the identification of a nasal diphthong this is irrelevant (**e*N may be represented by *a*N, *e*N, *i*N; **o*N as *a*N, *o*N, *u*N; **a*N as *a*N, *ə*N). In Balt, Li has preserved postvocalic nasal consonants before stops while in other positions the nasal consonants have been dropped, with compensatory lengthening of vowels (in spelling *ą*, *ę*, *į*, *ų*); OPr preserved nasal consonants after vowels; and Le has changed nasal diphthongs into long vowels (**un* > *ū*, **in* > *ī*) or non-nasal diphthongs (**an* > *uo*, **en* > *ie*).

Syllabic nasal sonants often are reflected as *a*, without any nasal consonant (OI, Av, partly Gr) or may have undergone a metathesis from V + N to N + V (Ir, partly Gr, La); or else they have developed vowels on both sides of N (partly Gr, La). For the table of correspondences see 5,3.

3. Examples. A. Preconsonantal position. a) *o*N. OCS *kǫpina* 'shrub', R *kupiná*, P *kępina*, Cz dial *kupina* 'bramble', Sn *kopînja*, SC *kùpina*, M *kapina*, Bg *kəpína* – Li *kam̃pas* 'corner, neighborhood', Gr καμπή 'bend', La *campus* 'field';

OCS *skǫdъ* 'indigent', R *skúdnyj* 'scanty', Br *pa-skúdny* 'filthy, foul', U *paskúdnyj*, OP *oskundzić* 'revile', Sn *oskǫ́den* 'scarce', SC *òskudan* 'scanty', Bg *oskə́den* 'miserable' – Av *skənda-* 'break, injury', La *scandula* 'shingle';

OCS *pa-ǫčina* 'cobweb', R *paúk* 'spider', Br, U *pavúk*, P *pająk*, Pb *pójąk* (pogang), Sk *pavúk*, Cz *pavouk*, Sn dial *pâvok*, SC *pȁūk*, M, Bg *pájak* – OI *aŋkás* 'bend, hook', Gr ὄγκος 'barbed hook', La *uncus* 'bend, hook'.

Further examples: OCS *spǫdъ* 'bushel', *blǫdъ* 'lewdness', *lǫkъ* 'bow', *mǫdrъ* 'wise', *pǫtь* 'road', *trǫsъ* 'quake', *ǫza* 'fetters', *zǫbъ* 'tooth'; ending *-ǫtъ* in 3 pl (e.g. *nesǫtъ* 'carry'); R *búben* 'tambourine', *dugá* 'arc', *kus* 'piece', *rubíť* 'hew, fell'.

If IE evidence is insufficient *per se* to establish whether Sl *ǫ* goes back to **o*N

[1] If dialects are taken into consideration, the *e*-area is not so clearly delimited from the *'a*-area as it would seem from the comparison of the standard languages. In the *e*-area OČak had *a* after *j* and hushing consonants (Cf. even now *jāšmīk* 'barley', *zajīk* 'tongue' (from OČak *jazik* through metathesis); on the other hand, NU has *e* in unstressed position (*pjat'* 'five' but *petók* 'five (as a measure)'); *ja-* from *ję-* is typical also of M: *jačmen*, *jazik*.

or *aN, additional light may be shed by the analysis of alternations: if *ǫ* alternates with *ę* (or, in Li, *an* with *en*), the inference is that *ǫ* stems from *oN. This is the case, e.g., in OCS *prǫžati* 'tear', R *pružina* 'spring', Br, U *pruh* 'edge', P *pręga* 'stripe', LS *pšuga*, US *pruha*, Sk, Cz *pruh*, Sn *prǫ́ga*, SC *prúga*, Bg *prəg* 'frame' as compared to Li *sprangùs* 'choking', MHG *sprinke* 'trap'; cf. *e*-grade in OCS *sъpręgnǫti sę* 'marry', R *sprjagát'* 'connect; conjugate', etc.;

OCS *rǫka* 'arm, hand', R, Br, U *ruká*, P *ręka*, Pb *rǫ̂kə* (runka), LS, US, Sk, Cz *ruka*, Sn *róka*, SC *rúka*, M *raka*, Bg *rəká* as compared to Li *rankà*, Le *rùoka*; cf. *e*-grade in Li *renkù* 'collect'.

There remain some ambiguous cases, e.g. R *gustój* 'dense'.

b) *a*N. R *gus'* 'goose', Br *hus'*, U *húska*, P *gęś*, Pb *gǫ̂s* (gungs), LS *gus*, US, Sk, Cz *hus*, Sn *gôs*, SC *gȕska*, Bg *gə̀ska* as compared to Li *žąsìs*, Le *zùoss*, OPr *sansy*, OI *hamsás*, Gr χήν, La *anser*, OHG *gans*;

OCS *ǫgъlъ* 'corner', R *úgol*, Br *vúhal*, P *węgieł*, LS *nugel*, US *nuhl*, Sk *uhol*, Cz *úhel*, Sn *ôgel*, SC *ȕgao*, M *agol*, Bg *ə̀gəl* – OI *aŋgam* 'limb', Arm *ankiun* 'at corner', Gr ἀγκών 'joint', La *angulus* 'corner';

OCS *(ob)ǫxati* 'smell', R *(blago)uxát'* 'be fragrant', P *wąchać* 'smell', Sn *vôhati*, Bg *vəx* – OI *ániti* 'breathe', Gr ἄνεμος 'breath, whiff', La *animus* 'soul', Cym *anadl* 'breath', Go *uz-anan* 'exhale'.

Further examples: OCS *ǫzъkъ* 'narrow', P *kąt* 'corner', probably also OCS *ǫglь* 'coal', R *už* 'grass snake'.

c) *e*N. OCS *tętiva* 'bowstring'. OR *tjativa* (R *tetivá*, Br *cecivá* have historically unjustified spelling), U *tjatyvá*, P *cięciwa*, Sk *tetiva*, Cz *tětiva*, Sn, SC *tetíva*, M *tetiva* 'curve', Bg *tetivá* – Li *tem̃pti* 'stretch', La *tempus* 'time', ON *þǫmb* 'bowstring';

OCS *tręsti* 'shake', R *trjastí*, Br *trésci*, U *trjastý*, P *trząść*, Pb *trą̂sə* (trangsa, 3 sg), LS *tśěsć*, US *třasć*, Sk *triasť*, Cz *třásti*, Sn, SC *trésti*, M *trese*, Bg *trésa* – Li *trémti* 'push down', Gr τρέμω 'tremble', Alb *trëmb* 'frighten', La *tremō* 'tremble', To A *träm-*;

OCS *žęti* 'reap' (with ≠ grade in prevocalic position in pres: *žьnjǫ*), R *žat'*, Br *žac'*, U *žáty*, P *żąć*, LS *žeś*, US *žeć*, Sk *žat'*, Cz *žíti*, Sn *žéti*, SC *žȅti*, M *žetva* 'harvest', Bg *žétva* – Li *genė́ti* 'poll, lob', Le *dzenêt*, OI *hánti* 'hit', Av *jainti*, Gr θείνω (*ein* < *eni̯*), La *de-fendō* 'defend', Ir *benim* 'hit'.

Further examples: OCS *blęsti* 'go astray', *(sъ)lęšti* : *-lękǫ* 'bend', *męso* 'meat', *męsti* 'stir', *pętь* 'five', *pęta* 'heel', *svętъ* 'holy', *vęzati* 'tie', *(pro)zębati* 'sprout', *zętь* 'bridegroom'; cf. also the suffix *-ę(t)*, as in OCS *agnę*, gen sg *agnęte* 'lamb'.

d) *i*N, *u*N. These as a rule go back to *u* or *i* of the root in combination with the nasal infix. The problem will be examined and illustrated in section 4. Only a few examples in which N occurs in all IE languages having the word may be cited here:

OCS *gǫba* 'sponge', R *gúbka*, Br, U *húbka*, P *gąbka*, LS *gubica*, US *hubica*, Sk *huba*, Cz *houba*, Sn *gǫ́ba*, SC *gȕba* 'lichen', Bg *gə̀ba* – Li *gum̃bas* 'excrescence', Afghan *γumba* 'bump', ON *kumpr* 'lump';

OCS *dǫti* (1 sg *dъmǫ*) 'blow', R *dut'*, P *dąć*, LS *duś*, US *duć*, Sk *dut'*, Cz *douti*, Sn *nadóti se* 'swell', SC *nàduti se* – if these forms correspond to Li *dùmti* 'blow', OPr *dumsle* 'urinary bladder', Osset *dymyn* ~ *dumun*.

e) N̥ > *i*N. The most reliable examples are given in 5, 4, with important reservations and qualifications concerning the pertinent data. To this may be added the endings of the 3 pl pres of athematic verbs and of the aor: OCS *dadętъ* 'give', *rěšę* 'say' (from *-N̥t- and *-N̥t). A few more examples follow, more or less uncertain as to whether they are a continuation of N̥ or *e*N:

OCS *čęstъ* 'dense', R, U *částyj*, Br *částy*, P *częsty*, LS *cesty*, US *časty*, Sk, Cz *častý*, Sn *čę̑st*, SC *čêst*, M *često* 'often', Bg *čest* 'dense' – Li *kim̃štas* 'stuffed', cf. *kim̃šti* 'stuff', but 1 sg *kemšù*, with full grade;

OCS *-gręznǫti* 'duck', R *grjáznut'* 'wallow', P *grzęznąć*, LS *grěznuś*, US *hrěznyć*, Sk *hriaznut'*, OCz *-hřaznúti*, Sn *grézniti*, SC *grȅznuti* – Li *grim̃sti* 'sink', Le *grimt*. On the other hand, the alternation with *ǫ* in Sl (OCS *-grǫziti* 'sink'), the intonation

in Sl and possibly such IE parallels as La *gramiae* 'eye pus', Go *grammiþa* 'dampness' make it probable that *ę* in Sl goes back rather to *e*N than to N̥.

Other examples of dubious character are OCS *rędъ* 'order', *tęžьkъ* 'heavy', R *(pri)jút* 'refuge', *sjabër* 'neighbor', *pjast'* 'metacarpus', Cz *havez* 'Adenostyles' (bot), and, with more complications, R *rjabój* 'pitted' (See section 6).

B. Prevocalic position. The difference between the treatment of the group vowel + N in preconsonantal and in prevocalic position is particularly obvious in the opposition between pres and inf (as well as aor) forms of some verbs, cf.

OCS	*(j)ęti*	–	*imǫ*	'take'	aor *ęsъ*
	klęti	–	*klьnǫ*	'curse'	*klęsъ*
	žęti	–	*žьnjǫ*	'reap'	(*žęsъ*)
	(na)čęti	–	*-čьnǫ*	'begin'	*-čęsъ*
	(ras)pęti	–	*pьnǫ*	'crucify'	*-pęsъ* ~ *-pęxъ*,

going back to **emtei* or (less likely) **imtei* vs. **imō*N, *klentei* or (less likely) **klintei* vs. **klinōN*, etc.

The difference is also manifest in the treatment of the prefix (IE) **an-* (as in OI *anu*, Av *ana*, Gr ἀνά, La *an-*, Go *ana* denoting location and/or direction): OCS *on-ušta* 'sandal' (before a vowel) as opposed to *ǫ-dolъ* 'valley', P (with prothetic *v-*) *wądół*; also P *wąwóz* 'ravine', OP *Wąwel* 'hill and castle in Cracow' (Mo P *Wawel*).

In declensional themes this difference in treatment accounts for *-ę* in subst of the type RChSl, SChSl *kor-ę* 'root', gen sg *kor-en-e*. In the masc form OCS *korenь* 'root' *-en-* was not changed as in the neut because here it was followed by a vowel. Similarly R *páren'* 'fellow' presupposes an original **parę* as an abridged form of the word represented by R dial *párobok*, U *párubok*, P *parobek*, Sk *parobok* 'slave'. It is the same *-en-* as in R family-names of the type *Orl-én-ev*, *Jur-én-ev*, *Gavr-én-ev*, and possibly in the U names in *-en-ko* (*Ševč-én-ko*); the latter are however of a much later date (sixteenth century); this explains why *-en-* transferred here into preconsonantal position did not change. On the other hand, Cz dial (Moravian) *pařák* 'bungler', if its *á* comes from *ę*, presents a regular CS development of the same suffix before a consonant.

4. Nasal infix and the so-called nasal doublets. The Sl languages of older date, beginning with OCS, as well as the modern ones, have quite a few instances of twofold vowels in the same root not traceable to CS vowel alternations: one vowel continues a CS nasal vowel from a nasal diphthong, the other can be only from a non-nasal vowel. These twofold forms are traditionally called nasal doublets. For *ǫ* the doublet forms usually contain reflexes of u_2, but occasionally also reflexes of $\breve{u}_1$ (i.e. late CS *y*, *ъ*), for *ę*, reflexes of *ă* (i.e. late CS *ě*, *e*). From an historical point of view the term nasal doublet covers two diverse phenomena, occurring at different times and for different reasons: loss of original nasalization and secondary nasalization.

The chronologically oldest group of nasal doublets probably was related to the elimination of nasal infixes in CS. IE, which made broad use of suffixation and prefixation, had only one infix, *ne/n*, which was primarily used (mostly with terminative function) in pres of some verbs, as a rule with the root vowel in ≠ grade. The procedure of infixation, i.e. using a formant within the root between the vowel and the final consonant or consonantal cluster, was unique in the system of IE word derivation. Gradually it was eliminated in most IE languages: either the forms with *n* were dropped or *n* was interpreted as a regular part of the root and subsequently generalized. In the latter case *n* was

preserved but its original function lost. The opposition of subst *iūgum* 'yoke' and pres tense verb *iungo* 'connect' in La (with ≠ grade of the root vowel) is normal from the IE point of view; but one also finds *n* in other forms of the verb, viz. *iunxi*, *iunctum*, *iungere*, and this is an innovation which points to the loss of function of what originally was an infix. In Balt the nasal infix had the special function of marking intransitive (and mostly inchoative) verbs; it became highly productive, being used in Li (historically also in Le) before stops and clusters ending in stops and before the sonants *l*, *r*, *j*, *v*, e.g. Li *pakìsti* 'change' : *pakiñta*, 3 sg pres, *jùsti* 'feel' : *juñta*, 3 sg pres, etc. Although in Balt the relations are often obscured due to analogy, there are still 90 verbs in Le with traces of an infixed *n* in the pres and 450 in Li (Arumaa).

Sl evidently lost its nasal infix as a functional device in conjugation before the end of CS period. However its original presence still may be discerned, sometimes from the Sl data alone, in other cases by comparison with non-Sl IE languages.

OCS still had four verbs with the nasal infix used in accordance with the old line, i.e. in pres only (although not necessarily with ≠ grade): *bǫdǫ* vs. *byti* 'be', *lęgǫ* vs. *lešti* 'lie', *sędǫ* vs. *sěsti* 'sit down' (Cf. OPr *sindats* 'sitting', OI *āsandī* 'seat'), and *obręštǫ* vs. *obrěsti* 'find'.

No present-day Sl language retains *ę* : *ě* alternation in the last of these verbs (or the verb itself). Only R and Br retain the alternation of vowels in all three remaining verbs (R *byt'* : *búdu*, *leč'* : *ljágu*, *sest'* : *sjádu*; Br *byc'* : *búdu*, *léhčy* : *ljáhu*, *sésci* : *sjádu*). Most Sl languages have preserved the old opposition in only one verb, usually 'be' : P *być* : *będę*, LS *byś* : *budu*, US *być* : *budu*, Sk *byt'* : *budem*, Cz *být́i* : *budu*, Sn *bíti* : *bộm*, SC *bȉti* : *bȕdēm*, Bg *bídox* (aor) : *bə̀da*; but in U it is the opposition *sísty* : *sjádu* which is maintained while the forms of 'be' have the same vowel: *búty* : *búdu*. In M the vowels are completely uniform within the paradigm (*bide*, *legne*, *sedne*). Occasionally traces of a CS nasal vowel may be found in derivation, but devoid of motivation. The characteristic CS trend toward elimination of the nasal infix seems to have been continued in individual Sl languages.

Comparison with non-Sl IE languages discloses many more traces of the nasal infix in CS. Within Sl these instances are indiscernible because one of the two forms of the root was generalized, mostly one with the infix:

OCS *žędati* – *žęždǫ* 'long for', Br *žadác'* 'wish', U *žadáty* 'demand', P *żądać* 'wish', LS *žedaś*, US *žadać*, Sk *žiadat'*, Cz *žádati* as compared to Li (*pasi*)*gèsti* (inf) : (*pasi*)*gendù* 'crave' with *-n-* in pres alone, and to the forms of other IE languages with no infix: Av *ǰaidyat* 'asked', Gr θέσσασθαι 'claim', Ir *guidim* 'ask' (1 sg);

OCS (*do*)*sęʒati* 'seize', R *-sjagát'* 'reach', Br *sjahác'*, U *sjaháty*, P *sięgać*, LS *segaś*, US *sahać*, Sk *siahat'*, Cz *sahati*, Sn *sę́gniti*, SC *sȅgnuti se*, Bg *ségam* vs. Li *sègti*, *segù* 'fasten', Le *segt*, *sedzu* 'cover'; but in OI *sájati* 'hang, fasten' is opposed to the infixed form *sañjayati* 'connect';

OCS (*i*)*sęknǫti* 'be drained', R (*is*)*sjáknut'*, P *siąkać*, Cz *sáknouti* 'trickle', SC (*pre*)*sèkati* 'exhaust' vs. Li *sèkti* : *senkù* 'sink', Le *sîkt*, *sîku* 'dry up', OI *ásakras* 'non-drying'; SC still preserves reflexes of this root without the infix, but they

languages; they may however continue variety of forms in CS dialects. The secondary nasalization of the suffix *-neu-/-nou-* (>*-nǫ-*) in the inf stem of the second class verbs was undoubtedly CS, cf. OCS *vyknǫti* 'get accustomed', R (*pri*)*výknut'*, P (*z*)*wyknąć*, Sk (*z*)*vyknúť*, Cz (*z*)*vyknouti*, SC (*prì*)*viknuti*. For the original non-nasalized form cf. OCS participles of the type (*vъzd*)*ri-nov-enъ* (PS) from *-ri-nǫ-ti*, *neprikos-nov-enъ* 'untouchable' from *kos-nǫ-ti* 'touch', etc. Cf. also Gr verbs of the type κυ-νέ-ω 'kiss' (aor. κύ-σ-α).

Unlike assimilations, dissimilations under the influence of a nasal consonant resulting in denasalization of the vowel are rare. Yet such a dissimilation is to be assumed in the root *mǫt-* ~ *męt-*, in which the original nasal consonant is attested by the very presence of the alternation *ǫ* : *ę* as well as by the comparative data. For the original nasality cf. OCS *mǫtiti* 'throw into disorder' (also *męsti*), P *mącić*, Sn *mǫ́titi*, M *mati* 'muddy', Bg *mətjá* – Li *mentùris* 'whisk', OI *mathnā́ti* ~ *mánthati* 'shake', Av *mant-* 'touch', La *mamphur* 'piece of lathe'; denasalized forms are represented by P *smutek* (also *smętek*) 'sadness', M *smut* 'disorder', Bg *smúten* (but also *smə́ten*) 'troubled'.

Denasalization caused by *n* in the suffix may also be considered a possibility in R, U *smetána* 'sour cream', Br *smjatána*, P *śmietana*, Ka *smjotana*, LS, US *smjetana*, Sk, Cz *smetana*. Sn *smẹ́tana*. In all these words the root vowel continues CS °*a*; but P dial (Jasło, Gorlice, Krosno, Łowicz) *śmiętana* and the Rm loan word from Sl, *smîntînă* (Istro-Rm *smîntîră*), point to a CS form with *ę*. However a blending of the roots *męt-* and *met-* (R *metát'* 'cast') is another possible explanation.

An early CS denasalization may be supposed in OCS *měsęcь* 'moon, month', R *mésjac*, U *misjac'*, P *miesiąc*, LS *mjasec*, US *měsac*, Sk *mesiac*, Cz *měsíc*, Sn *mẹ̑sec*, SC *mȅsēc*, M, Bg *mésec*. Its CS form was **mēs*-N̥ (with *-k-* added later as a suffix), an *n*-stem formation to the root *mēs-*, with ≠ grade in the theme. Its Gr counterpart μήν and La *mēns-is* as well as Li *mė́nuo*, Le *mēnesis*, OPr *menins*, To B *meñe*, Go *mēna* show a nasal in the root, so that CS **m*°*ā*N*s*-N̥ would be expected. Obviously the middle nasal consonant fell by dissimilation from the two other nasal consonants. At the time of active Sl-Irn contacts (reflected particularly in the religious vocabulary) the loss of *n* could have been supported also by the lack of this *n* in Indo-Irn (OI *mās*, OPers *māhyā* 'in month', but cf. Av *mā̊*, *gen mā̊ŋhō*). A similar development, although not so obvious, may be assumed for OCS *pěsъkъ* 'sand', etc., as compared with OI *pānisūḥ* 'dust', Arm *p'osi*, if Sl had a form with a second *n*, of the type Av *pąsnuš*.

How assimilation and dissimilation could occur (at different times) even in the same word is demonstrated by the P continuation of CS **k*(*u*)*nīg*°*ā* 'book'. First by assimilation to the preceding nasal it became OP **kn'ęga*; then, through dissimilation of the two nasals, P *księga*.

Secondary nasalizations (and, rarely, denasalizations) caused by a nasal environment never became phonetic law. They occurred only occasionally and in each dialect it was a matter of chance whether a given word was stabilized in the form with nasalization or without or whether both forms were admitted.

6. Expressive nasalization and other factors causing nasal doublets. Fluctuations in the use of nasal consonants caused by the extinction of nasal infixes and the influence of phonetic environments made nasalization, after the rise of nasal vowels, an optional feature in many morphemes. A distinctive feature occasionally devoid of a clear-cut phonemic function easily becomes a device of affectivity, as do accessory articulations in general. Such an evolution was established for aspiration in early CS: *k'* became a mark of affectivity and bestowed its affectivity on its reflex *x* (See 8, 7). Palatalization of consonants is also occasionally used as an affective device. In the root cited in section 5, *gnus-* ~ *gnǫs-*, there is also a variant with secondarily palatalized *n* : Br *hnjúsny* 'disgusting', Cz *hnis* 'pus', SC dial *gnjusan* 'disgusting'.

Nasalization of vowels also may be considered as a complicating accessory articulation (*ǫ* roughly is *o* + ˜, as, say, *m'* is *m* + ') not following the vowel in speech sequence but superimposed as a simultaneous co-articulation. Thus, under the conditions of instability and optionality of nasalization in certain morphemes, nasalization of vowels in late CS became in some cases a mark of affectivity. Later, when nasal vowels were lost in most Sl languages the affectivity of these forms was forgotten; but these originally affective forms remain in the Sl languages as historically unmotivated instances of secondary nasalization, i.e as mere "nasal doublets".

The following may be cited as examples of the secondary nasalization which presumably was for a certain time the carrier of affectivity:

R dial *bučát'* 'buzz', U *búča* 'uproar', P *buczeć* 'bellow', US *bučeć*, Sk *bučat'*, Cz *bučeti*, Sn *búčati*, SC *búčati* 'roar', M *bučava*, Bg *buča* (with reduced grade possibly in OCS *bъčela* 'bee', etc., and lengthened ≠ grade in R *byk* 'bull') – Li *baũkti* 'bellow', Le *bucêt* 'sound', OI *bukkati* 'bark' – vs. the nasalized form in P *bąk* 'a bird; gadfly', Sn *bộkati* 'bellow';

R *trepát'* 'scutch', U *tripáty* 'dust, shake', P *trzepać* 'beat out', LS *tśepaś*, US *třepać*, Sk *trepat'*, Cz *třepati* – Li *trepsěti* 'tramp', OPr *ertreppa* 'step over' (3 pl), OI *tr̥pas* 'mobile', Gr τραπέω 'tread', La *trepidus* 'hasty', Go *þrabōn* 'trot' – vs. the nasalized forms in R *trjápka* 'rag', P *strzępka* 'pewter grass', Sk *strapec* 'fringe', Cz (*s*)*třapec* 'tassel';

R *ručéj* 'brook', Br, U *ručáj*, P *ruczaj*, US *ručej*, Sk *ručaj* ~ *ručej*, Cz *ručej*, Bg *rúkvam* 'rush' (lengthened grade in Moravian *ryčat'* 'flow') vs. the nasalized forms P *rączy* 'fast' and probably US *ruče*, Cz *ručí*;

to Li *raĩbas* 'many-colored', Le *ràibs*, Li *riběti* 'flicker', all with a root vowel of *i*-series, Sl has correspondences with nasalization only: R *rjabój* 'many-colored', Br *rabý*, U *rjabýj*, P *jarząb* 'rowan (tree)', LS *jerjebina*, US *wjerjebina*, Sk *jarab* 'hazel grouse', Cz *jeřábek*, Sn *jerệb*, SC *jȁrēb*, Bg *járebica*.

There are cases in which it is difficult to decide whether the nasalization was caused by affectivity or resulted from the blending of two different roots. The two factors do not exlcude one another, indeed: blendings occur particularly often in affective words. The following are examples of the type:

R *plutát'* 'get lost', Br *plútac'* 'entangle', U *plútaty*, P *plątać* based on R *plesti* 'weave', P *pleść*, *plotę*, etc. (without nasalization), possibly blended with R *pútat'* 'entangle', P *pętać* 'fetter', etc. (with nasalization of IE origin);

The IE root **d'oug'-* as represented in Li *daũg* 'much', Le *daũdz*, Gr τεύχω 'pre-

occur in subst and are completely dissociated from the verb: *ȍsjeka* 'ebb', Ikavian *sȉka* 'shoal' (with *je*, *i* from *ě*);

R dial *krjátat'* 'stir, move', Sk *(na)kriatnut'* 'direct', Cz *(vy)křátnouti* 'dislocate', Sn *krétati* 'turn', SC *krétati* 'move', M *krene* 'lift', Bg *krétam* 'shake' as compared to OI *kr̥ṇátti* 'spin' vs. *cr̥táti* 'bind together', Gr κάρταλος 'basket', La *crātis* 'plait work', Go *haúrds* 'door';

OCS *grędǫ* 'stride', R *grjadú*, Sn *grédem* 'go', SC *grédēm*, Bg *gredá* as compared to Li *grìdyti*, *grìdyju* 'go', OI *gr̥dhyati*, Av *(aiwi)gərəδmahi* 'begin' (1 pl), La *gradior* 'stride', Ir *(in)greinn*, Go *grid* 'step';

R *zastrját'* 'stick', U *(za)strjáhnuty*, P *(za)strząć* as compared to Li *strìgti* : *stringù* 'stick', Le *strigt* : *striêgu* 'sink';

R *gudét'* 'drone', Br *huscí*, U *hustý*, OP *gąść* 'fiddle', US *hudzić*, Cz *housti*, Sn *gósti*, SC *gúdeti*, Bg *gədúvam* as compared to Li *gaũsti*, *gaudžiù* 'sound', Le *gaudêt* 'complain', i.e. with nasal infixation only in Sl;

RChSl *snubiti* 'pander', P *(dziewo)słąb* 'matchmaker' (with *l* < *n* by dissimilation), LS *snubiś* 'woo', Sk *snúbit'*, Cz *snoubiti* as compared to La *nūbō* 'marry', Gr (with nasal infix) νύμφη 'beloved (girl)'; Sn *snúbiti* points to an infixless variant.

As in La *iunctūra* 'juncture', which has its nasal infix from the verb *iungo*, in CS also the nasal infix was extended to some nouns:

OCS *dręzga* 'wood', R *drjázgi* 'squabbles' (originally 'brushwood'), P *drzążdże* 'withy', US *Drježdźany* 'Dresden', SC *Drêzga*, place-name, Bg *drezdák* 'forest', alternating with R dial *druzg* 'brushwood' as compared to Li *druzgéti* : *drųzgù* 'crumble', Le *drauza* 'bark chips', Gr θραύω 'shatter';

R *drjáblyj* 'flabby' is related through Li *dramblỹs* 'paunch' to Li *drìbti* : *drimbù* 'drip slowly' and, consequently, is based on a form with nasal infix; it is possible that R dial *drobét'* 'get shy' belongs here, but this is uncertain; if so it would represent the same root without the infix;

an attempt was made to derive the etymologically unclear Sl word for 'oak' (OCS *dǫbъ*, R, Br, U, LS, US, Sk, Cz *dub*, P *dąb*, Sn *dôb*, SC *dûb*, M *dab*, Bg *dəb*) from the root **dʻeub-* (as in OCS *dъbrь* < **dъbrь* 'cleft, valley') with nasal infix. Cf. Li *daubà* 'valley', *dum̃blas* 'marsh'.

Instances also occur in which Sl has infixless forms while other IE languages reveal forms exclusively or predominantly with infix, e.g.:

R *kúbok* 'goblet', U *kub* 'wooden container', P *kubek* 'goblet', LS *kub(k)* vs. OI *kumbhás* 'pot', Av *χumba-*, Gr κύμβος 'container', but also κύβη 'skull cap';

R *pégij* 'skewbald', P *piega* 'freckle', LS *pěga*, US *piha*, Sk *peha*, Cz *píha*, Sn *pę́ga*, SC *pȅga*, Bg *péga* vs. OI *piŋgas* 'reddish', Gr πίγγαλος 'lizard', La *pingō*, *pīnxī* (but *pictum*) 'draw'.

There are many more examples of secondary nasalization based on the generalization of forms with nasal infix, as R *kručína* 'sorrow', P *kręcz* 'giddiness', etc., vs. R *kórčit'* 'writhe'; P *gruby* 'thick' vs. P dial *gręby* 'puckered', Sn *grộb* 'thick'; OCS *glǫbokъ* 'deep' vs. U *hlybókyj* (< **glъbok-*); P *chęć* 'desire' vs. OCS *xotěti* ~ *xъtěti* 'wish'; R *púgovica* 'button', Sn *pộglica* 'pin, clasp' vs. Li *pañgurs* 'hill'; OCS *prǫgъ* 'locust' vs. R *prýgat'* 'jump'; P *chrząst* 'beetle' vs. Bg *xruštjá* 'crunch'; OP *gąz* vs. P *guz* 'lump'; U *žabokrjákivka* 'frog swamp' vs. SC *ȍkrijek* 'sphagnum' (Cf. Li *krèkti* : *krenkù* 'clot, curdle'), etc. For other examples and more detail concerning these see the etymological dictionaries as well as Sławski's article listed in the bibliography to this chapter.

As the nasal infix was losing its function and motivation its use in many words became unstable and optional. While ultimately shrinking occasionally

it could spread – whether by mere chance or as a hypercorrect form – to those roots where originally it was unknown. It is to be assumed that there was a period in CS when many doublets were current with and without N before the last consonant of the root. This was prior to the time of the formation of nasal vowels. Doublets of this kind which were still in circulation at the time of the rise of nasal vowels naturally followed the general phonetic trend producing some parallel forms with *i*, ${}_e a$: *ę* and u_1, u_2, ${}_o a$: *ǫ*. CS bequeathed some of these doublets to the historically attested Sl languages, as may be concluded from the fact that there are virtually no doublets with the reflexes of ${}_o a$ and many more with those of $\breve{u}_1$, a detail which recalls the fact that the nasal infix originally characterized roots with # grade and not those with full-grade vowels. Yet most nasal doublets extant are in the forms which otherwise contain the reflexes of u_2, a vowel of relatively late formation, which is to be considered as a later expansion of nasalization from $\breve{u}_1$ to u_2, the closest vowel phonetically.

5. Nasal doublets conditioned phonetically. Another layer of nasal doublets belongs to a later period of CS: they arose after the nasal vowels became a part of the CS inventory. The nasal doublets of this period do not necessarily have verbs as the point of departure. They are conditioned not morphologically but phonetically, viz. by assimilation (less often dissimilation) of the morpheme vowel to a nasal consonant in the same word. The following instances of secondary nasalization belong to this type:

OCS *gnusьnъ* ~ *gnǫsьnъ* 'loathsome', Bg *gnúsen* ~ *gnə́sen*, M *gnas* 'repulsiveness', but P only *gnuśny*, Sn *gnûs* 'disgust'[2] – cf. Gr χναύω 'scratch', ON *gnúa* 'rub'; the nasalization is conditioned by the presence of *n* in the root;

OCS *muditi* ~ *mǫditi* 'linger', but P only *mudzić* 'tarry', Sn *mudíti*, Bg *múden* 'slow' vs. Li *maũsti* 'make suffer', Go *maudjan* 'remind'. Cf. *u*-series alternation represented in this root, e.g., by OR *motčati* 'linger' < **mъdъčati*;

OCS *nuditi* ~ *nǫditi* 'force', P *nudzić* 'bore' vs. *nędza* 'poverty', Sn *núja* ~ *nója* 'need', but M only *núdi* 'offer', Bg *núžda* 'need' vs. Li (*pa*)*nű́sti* 'long for', OI *nudáti* 'push';

P *nukać* 'drive' ~ *nękać* 'worry', but Sn only *nù* 'come on' – cf. Li *niùkinti* 'drive';

P *wnuk* ~ *wnęk* 'grandson', but Sn only *vnúk*, M, Bg *vnuk*; *-uk* is a suffix, the root being *-ŭn-* (*-ъn-*) (Cf. Li *anýta* 'mother-in-law', La *anus* 'old woman');

R, U *prjámo* 'straight' has *'a* probably from *ę*; *ě*, as shown by other Sl languages (OCS *prěmo* 'before', P *uprzejmy* 'kind', Sk *priamy* 'straight', Cz *přímo*, Sn *prę̂m* ~ *prę̂ma*) and confirmed by non-Sl IE evidence (OI *paré* 'farther', Gr παραί 'at', La *prae* 'in front of' + *-mo* as in *mimo* 'by') was nasalized by the following *m*.

Further examples of phonetically conditioned secondary nasalization are possibly R *djádja* 'uncle', U *djád'ko* < **dědę* (Cf. *dědъ* 'grandfather'; but see 11,7); Br *cjámic'* 'understand', U *tjámyty* – cf. Gr τημελέω 'care'; R *njánja* 'nanny', Sk *ňaňa* 'aunt' vs. U *nénja*; but the latter word can be simply an imitation of babies' babbling.

Most of the cases cited are limited to a few or even just one of the Sl

[2] Only those Sl languages are quoted in which the reflexes of *ǫ* and *u* did not coalesce.

pare', Ir *dúal* (< **duglo-*) 'fitting', Go *daug* 'fit' is blended with IE **d'ong'-* as represented in OI *daghnóti* 'reach', Ir *daingen* 'hard, strong' in Sl doublets: OCS *nedǫgъ* 'illness', R *nedúg*, Br *dúžy* 'strong', U *dúžyj*, P *duży* 'big' but *dążyć* 'hurry up', Sk *duh* 'strength', Cz *dužiti* 'strengthen', M *nedugov* 'abnormal', Bg *nedǝ́g* and *nedúga* 'sickness';

P *pieczęć* 'seal' as compared with OCS *pečatь* (based on *pekǫ* 'bake') shows a late (only P) secondary nasalization due to the influence of words of the type *pamięć* 'memory', i.e. a kind of blending based on a historically incorrect breakdown of the word into morphemes (*pam-ięć* instead of *pa-mięć*). Cz influence could have played a part in this development: cf. the identity of the final parts of the two words in Cz (*paměť*, *pečeť*) which is brought about by normal coalescence of the reflexes of *ę* and *a* between palatalized consonants in Cz.

This example raises the general problem of borrowing from one Sl language into another as for its bearing on the question of nasal doublets. If a nasal doublet occurs in only one Sl language it can be a borrowing from another Sl language with different reflexes of CS nasal vowels, e.g. *u*-forms of P can be borrowings from Cz, U or Br; *u*-forms of Sn, M and Bg from SC or R. Yet the fact that a form is known from only one Sl language is no proof that it arose first in this language. Our evidence of CS in this respect is scanty. E.g. the difference between CS *ǫ* and u_2 may be established only from P, Sn, M, and Bg among the living Sl languages. If the form *wnęk* 'grandson' as cited above is limited to OP, this does not prove that it was an early P innovation. It could have covered a much broader area, say R, Br, U, Sk, and Cz, but in these languages the difference between *vnuk-* and *vnǫk-* is no longer discernible. This is particularly clear in another example also cited above: the nasalized form of *śmietana* 'sour cream' is limited to only a few P dialects. Fortunately the word was borrowed by Rm and there, in both Rm proper and Istro-Rm, it occurs with a nasal. Obviously nasalization existed in some if not all SSl languages or dialects where otherwise CS *ę* and *e* coalesced: Sn *smḗtana*, Bg *smetána*.

Thus, even in the examples of nasal doublets known from a single Sl language the possibility of CS patrimony is not to be ruled out unless there are positive historical and/or cultural proofs that one form of the pair has been borrowed by this language from another Sl language. In CS there certainly were many dialectally distributed instances of secondary nasalization or denasalization, but we are unable to reconstruct their isoglosses because of the paucity of our evidence.

In conclusion, the following layers in the formation of nasal doublets may be posited, distinct in causes and chronology:

a) Doublets caused by an interplay of forms with and without nasal infixes, before the rise of nasal vowels;

b) Doublets caused by phonetic environment through assimilation or dissimilation, before and (mostly) during the time when the nasal vowels existed;

c) Doublets produced by affective nasalization, mostly while the nasal vowels existed;

d) Doublets produced by borrowings from other Sl languages, after the loss of nasal vowels in some of the Sl languages.

7. Problem of nasalization before a second nasal consonant. In the chapters on the elimination of geminated consonants and on the simplification of consonantal clusters in CS (12 and 13) the problems of geminated nasals and of the clusters *mn* and *nm* were omitted. They are to be taken up now.

Words which originally had the cluster *mn* are fairly numerous. In this cluster *m* did not join the preceding vowel and transform it into a nasal vowel, but was dropped instead, e.g.:

after *ĭ*: OR *tьnu* (1 sg to *tjati* 'hit'), Br, U, US, Cz *tnu*, P *tnę* 'cut', Sn *tnèm* – cognate of Gr. τέμνω (< **tm̥nō*), Ir *tamnaim* 'deform', La (*aes*)*timō* 'estimate'; the CS stem is to be reconstructed as **tĭmn-*;

after *ī*: OCS *tina* 'slime', R *tína*, Br *cína*, OCz *tina* 'swamp', M *tinja* 'mud', Bg *tína* – from **tīmnā* (Cf. OCS, OR *timěno* 'mud, swamp');

after *ŭ*: R dial *kneja* (< **kъn-*) 'grove', P *knieja* 'forest', dial *kien* ~ *kień* (< **kŭnŭ*) 'block, trunk', Cz *Kníje*, place-name, *do kna nic* 'nothing' – from **kŭmn-* (Cf. Cz *kmen* 'stem' < **kumōns*; Li *kamẽnas* 'stem end', Le *kamans* 'beam end');

after u_2: R, Br *runó* 'fleece', U, Sk, Sn, SC, Bg *rúno*, P *runo*, Cz *rouno* – from **r$_o$aumn$_o$a* (Cf. OI *rṓman* 'hair', Ir *rón* [< **raumn-*] 'horsehair').

In all these cases *m* has been lost the same as after a consonant, e. g. in OR, ChSl *usnie* 'leather', Cz *usně*, Sn *úsnja* – from **$_o$ausmn-* (Cf. OR *usma* 'leather', SC *ùsmina* 'leg of boot', Bg *usmár* 'skinner').

Other examples are: Sn *brìn* 'juniper' (**brīmn-*), R *struná* 'string' (**stroumnā*), OR (Novgorod) *na zenь* 'down' (**z$_e$amn-*); possibly U *krynýcja* 'well' (if cognate of *kromá* 'edge, brim', cf. Li *krim̃sti* : *kremtù* 'bite', thus going back to **krĭm-n-*), OCS *pěna* 'foam' (Cf. Li *spáinė* 'streak of foam' and La *spūma* 'foam').

The situation is unclear with *mn* preceded by *e*. The two known examples suggest rather that *e* changed into *ē*, i. e. underwent lengthening:

SChSl *těmę* 'top of head', R *témja*, Br *cémja*, U *tímja*, P *ciemię*, LS *tymje*, Sk *temä*, Cz *témě*, Sn *tẹ́me*, SC *tjȅme*, M *teme*, Bg *téme* as compared to OR *tьnu*, *tjati* 'hit'; otherwise the root does not have *ě*;

ChSl *těnja* 'shadow', R *ten'*, Br *cen'*, U *tin'*, P *cień*, LS *šěń*, Sn *tẹ́nja* as compared to OCS *tьma* 'darkness', Li *témti* 'darken'.

The examples are inconclusive however. In the first there was an unusual agglomeration of nasal consonants: **t$_e$amnm$_e$an*. It could have been its simplification which resulted in the lengthening of the root vowel. The second word may be a blend with OCS *sěnь* 'shadow', as OCS *stěnь* is (See 15.9). In *sěnь ě* is expected and from there it could have spread to *těnь*.

There are few traces of the cluster *nm*. It may be supposed in OCS *imę* 'name', R *ímja*, Br, U *imjá*, P *imię*, Pb *jáimą* (geimang), Cz *jméno*, Sn *imê*, SC *ȉmē*, M *ime*, Bg *íme* – from **in-m$_e$an* < **n̥-mēn*; and in the ending of the dat and instr pl of subst masc with the suffixes *-ēn-* and *-(j)ān-*. The ending beginning in *m* (OCS *-mъ*, *-mi*) was added to this suffix and the resulting cluster *nm* was simplified to *m*, to the detriment of the unity of the suffix in the paradigm. Examples of the dat pl are rather rare, except in Sn (Central and W), which has preserved forms of the type *Dutovljam*, from *Dutovljan* 'inhabitant of Dutovlje', instr pl *Dutovljami*, loc pl *Dutovljah*[3]; also cf. OSC *gradam dubrovьčamь* 'citizens of Dubrovnik' (from *građani*, *dubrovčani*, writ of 1189); but the principle of dropping the *n* of the suffix was generalized and transferred to the loc pl, where it was not phonetically motivated (from *-ān* + *s-* one would rather expect *-ęs*). Since the loc is frequently used in place-names, quite a few petrified forms have been retained in various Sl languages, e. g. Baltic Sl **Lěsaxъ* (spelled *Lessaz*, 1177), place near Greifswald, derived from **Lěšane*;

[3] There is a tendency in Sn to develop, on the basis of these forms, a new nom and even gen pl of the type *Goriče*, *Gorič* (instead of *Goričane*, *Goričan*) 'inhabitants of Gorenjsko'.

Cz (*in villa*) *Dolas* (spelled *Dolaz*, 1073), place near Pardubice, from *Dolané*; Cz (*de*) *Planas* (1225), place-name, from *Plaňané*; OR *v poljaxъ, v derevljaxъ* (Kiev Chr. entry before that marked 852), from *Poljane, Derevljane*, tribe-names.

As the clusters *mn* and *nm* did not nasalize the preceding vowel, it is clear that they had been simplified, with the first nasal consonant dropped, prior to the time the nasal vowels were forming in CS. Nothing precludes the assumption that this was just one more link in the chain of simplifications in consonantal clusters as discussed in chapter 13. The cluster *mn* was treated identically after the first contacts of the Slavs with Rom population in Dalmatia: **Stamnum* (La *Stagnum*) became *Stȏn*, place-name. The procedure was consequently still productive at the beginning of the Sl invasion of Dalmatia; nasal vowels arose, thus, after these historical events.

Geminated *n* is represented in the position after ${}_{e}a$, i. e. ${}_{e}an$ + *n*. In accordance with the general treatment of geminated consonants *n* + *n* was simplified to *n* so that no nasal vowel could arise later; but, unlike other cases of simplified geminated consonants, ${}_{e}a$ underwent a compensatory lengthening in this case, becoming ${}_{e}\bar{a}$ (in further development *ě*). Examples are not very numerous but sufficient to support this assumption:

OCS *kaměnъ* 'stony', derived from the stem (OCS) *kamen-* (Cf. OCS gen sg *kamene*) + suffix *-n-*; the same was the derivation, with the change ${}_{e}a > {}_{e}\bar{a}$, in OCS *ruměnъ* 'red' (from *${r_o}audm_e\bar{a}n$-, cf. Li *raumuõ* 'muscle', gen *raumeñs*). Cf. also OCS *plaměnъ* 'fiery'. Sk *drôtený* 'wiry', *olovený* 'leaden'. Cz *drátěný, olověný, lněný* 'flaxen' point to original *ě*, not *ę* (which would yield *a* in Cz, *ä* after labials in Sk). This *-ěn-* differentiated adj from subst with *-en-*. But occasionally subst were formed anew on the basis of an adj with the „suffix" *-ěn-*. Thus the subst arose of the type OCS, OR *tíměno* 'mud, swamp', LS, US *tymjenišćo*, from the adj **tīměn-* which in its turn is derived as *$t\bar{\imath}m_{e}an$-*n-* from **tīmōN*, gen sg *$t\bar{\imath}m_{e}an_{e}a$ (the root as in R *tina* < *$t\bar{\imath}mn_{o}\bar{a}$, see *supra*). In SC the same occurred with *kȍrēn* 'root' as shown by its Jekavian form *korijen*. In OCS the verb based on the root *mьn(ěti)* 'think' occurs in the form *poměnǫti* 'remember' along with the otherwise expected *pomęnǫti* (from *-men-* + *-nǫ-*).

The change of ${}_{e}an$ + *n* into ${}_{e}\bar{a}n$ took place long before the rise of nasal vowels. It must have preceded the first palatalization of velars and the change of *ē* (*ě*) into *ā* after *j* and hushing consonants. In this position the "suffix" ${}_{e}\bar{a}n$ is represented as *-an-*, cf. OCS *rožanъ* 'horny', *šipъčanъ* 'rose', from *rogъ* 'horn', *šipъkъ* 'rose'. Such forms as SC *vòštan* 'waxen', *rȍžan* continue this *a*.

Another chronological clue is given by a Germ loan word. OHG *pfenning*, a monetary unit, is reflected as OCS *pěnęʒь* 'coin', RChSl *pěnjazь*, U arch *pinjaz'*, P *pieniądz*, LS, US *pjenjez*, Sk *peniaz*, Cz *peníz*, Sn *pẹ̑nez*, SC dial *pȅnēzi* 'money', i. e. everywhere with *ě* or its reflexes, which resulted from *e* lengthened to compensate for shortening of the geminated *n*.

The original situation is fairly well obliterated in the attested Sl languages by the later interplay of the suffixes *-ěn-*, *-en-*, *-ĭn-*. For the SC adj *kȁmen(ī)* there are no *je* or *i*-forms known in dialects in which *ě* is reflected as *je* or *i*; this makes one suppose that the suffix *-ěn-* in this word is replaced by *-en-* taken from such adj as *grȍzden* 'of iron', *slȁmen* 'of straw'; SC *kȍžan*, *kȍžnī* 'leathern' has *-ĭn-* suffix; its counterparts in other Sl languages like Cz *kožený*, Bg *kóžen* indicate an *-en-* suffix.

In R and U the suffixes in adj of this type are also reshuffled, and many an adj has the vowel of the underlying subst: R *kámennyj* like *kámen'* 'stone', *plemennój* 'tribal' like *plémeni* (gen sg), also U *pleminnyj*. But the more conservative forms, which became frozen because their connection with the underlying subst is lost, as well as the evidence of OR texts, lead unquestionably to the conclusion that the original forms had *-an-*, not *-en-*: R *stremjánnyj* 'groom' (with weakened connection to *strémja* 'stirrup'), *rumjányj* 'red', U *kámjanyj* (along with more modern *kaminnyj* modeled on the subst), *Kámjanec'-Podil's'kyj*, town-name, *polumjányj*

'fiery', *rumjányj* 'red'. This *-an-* cannot stem from *ě*, which yields *e* in R and *i* in U. Two explanations may be suggested.

The apparently simpler solution is phonetic, i. e. to deduce R and U *'a* from *ę*. This is hardly acceptable however in view of chronological considerations. Nasal vowels arose long after the loss of gemination. To accept *ę* in these forms for Proto-R and Proto-U dialects would mean to accept that in, say, *k₀ām₀an-n-* the geminated *n* was preserved until the time of the nasal vowels. Thus, it seems more plausible to assume that the change *₀an + n > ₀ān* was a CS development, but that later in Proto-R and Proto-U dialects a secondary nasalization of *ě* took place before following *n*. As shown in section 5, such nasalizations were not rare in late CS. However, it would then be incomprehensible why such a secondary nasalization did not develop in the suffix *-en-* as well (Cf. R *zelënyj* 'green', not +*zeljányj*, etc.), nor did it in the subst which had *ě* before *n*, as *péna* 'foam', *séno* 'hay', U *pína*, *síno*.

Because of these insurmountable difficulties one must resort to a morphological explanation, i. e. to assume that in Proto-R and Proto-U dialects a morphological leveling occurred in prehistoric time: the suffix *-an-* originally used after *j* and hushing consonants spread to other positions, having assumed a special meaning to denote the material of which a thing is composed (Cf. a similar generalization in the suffix *-₀ān-īn-* in names of inhabitants, not limited however to some ESl dialects, in 16, 6). This expansion is still evident in R with its *polotnjányj* 'of linen', *krovjanój* 'of blood', *stekljánnyj* 'of glass', *lubjanój* 'of bast', etc., in U with its *midjányj* 'brazen', *skljanýj* 'of glass' and many others, where other Sl languages have reflexes of either *ě* or *e* before *n*. It is noteworthy that Br succumbed to this trend to a much lesser degree. It preserves better the original situation, with *ě* before *n*: *rumény* 'red', *drěnny* 'bad', just reintroducing long *n* where there is an association with a subst in *-n*: *kaménny* 'stony', *kraménny* 'of flint', *raménny* 'belt-'. But *-an*-adj are not completely alien to Br, either, cf. *berascjány* 'of birch bark', *drawljány* 'wooden', etc.

8. Problem of peculiarities in nasalization of ĭ, ŭ. There are several words in which non-Sl IE languages, primarily Balt, have nasal consonants after *i*, *u* before a consonant, but in Sl are found reflexes of *ī*, *ū* (> *y*) instead of the expected nasal vowel:

R *gnída* 'nit', etc. – cf. Li *glìnda* (with *l* through dissimilation from *n*), Le *gnīda*;

OCS *žila* 'vein', etc. – cf. Li (Žem) *gínsla*;

OCS *isto* 'testicle', etc. – cf. Li *ìnkstas* 'kidney', Le *īksts* 'testicle', OPr *inxcze* 'kidney';

R *Ígor'*, personal name, from ON *Ingvarr*;

R *Ižóra*, river-name, from ON *Ingigerdr*, personal name, or Fi *Ingerinmaa*;

Br *líbic'* 'catch lobsters on bait', U dial *lýbaty* 'skim oil off surface of water' – cf. Gr λιμβεύω 'lick';

R *lýko* 'bast', etc. – cf. Li *lùnkas*, Le *lûks*, OPr *luñkan*, OI *lúñcati* 'pluck';

R *plitá* 'plate', etc. – cf. Gr πλίνθος 'brick', AS *flint* 'pebble; flint';

OCS *ryba* 'fish', etc. – cf. Li *rambùs* 'dull, slothful', Le *rum̃bulis* 'round block';

OCS *vyk(nǫti)* 'get accustomed', etc. – cf. Li *jùnkti*, *jùnktstu*, Le *jûkt*, OPr *iaukint* 'practice'.

On the basis of these facts it has been assumed that *ĭn*, *ŭn* yielded in CS *ī ȳ*, (and not *ę*, *ǫ*) under RP alone or perhaps always. Articulatorily, such an early denasalizaion of *į*, *ų* is plausible. The high position of the tongue in articulating *i* or *u* conflicts with the lowering the uvula neccessary for producing nasal resonance. A parallel may be drawn from Ka, where *ę* > *į* (except in final position and before hard dentals); this *į* soon was denasalized. Yet along with denasalization there always exists another possibility, that of preserving the nasalization but lowering the tongue, which would lead to the change of *į* into *ę* and even *ą*. This too is manifested by Ka, where before hard dentals and in final position *ę* > *ą* and hence preserved its nasalization: *įástřib* 'hawk' vs. *įagńą* 'lamb'.

As for CS, the examples cited above for the most part do not support the contention that *į*, *ų* were denasalized. In most of them the non-Sl IE forms with nasal consonant are in reality infixed forms, and forms without it occur in the same root:

gnida – Arm *anic* 'nit', Norw *gnit*;
žila – Li *gýsla* 'vein', OPr *gislo*, Arm *jil* 'sinew', La *fīlum* 'thread';
isto – ON *eista* 'testicle';
libic' – La *lībō* 'pour out';
lyko – forms without *n* are lacking, but Li *lùnkas* is a formation of the same type as *jùngas* 'yoke', where the counterparts in other languages occur without *n*, e. g. La *iūgum* 'yoke';
vyknǫti – Li *jaukùs* 'tame', OPr *iaukint* 'practice', OI *ucyati* 'be accustomed'.

The etymologies of *ryba* and *plita* are very uncertain. R *Igor'* and less probably *Ižora* were borrowed from OSw when in OR all nasal vowels had been lost but the groups V + N + C were not yet admitted, so that N was merely dropped.

What is most important is that there are numerous examples of *ǫ* and *ę* from *u* and *i* followed by a nasal consonant, as well as from *u*N, *i*N from an earlier N̥. To cite only a few:

R *vjaz* 'elm', P *wiąz*, etc. – cf. Li *vìnkšna*, Le *vîksna*;
OCS *mękъkъ* 'soft', etc. – cf. Li *mìnkyti* 'knead', Le *mîksts* 'soft';
OCS *pamętь* 'memory', etc. – Li (*at*)*mintìs*, OI *matíṣ* 'thought';
OCS (*vъz*)*ęti* 'take', etc. – Li *im̃ti*, etc.

See also such etymologies as OCS *językъ* 'tongue', *devętъ* 'ninth', *bǫdǫ* 'be' (1 sg fut) the ending *-ętъ* of 3 pl of fourth class verbs (*molętъ* 'pray'). The Germ suffix *-ing* in Sl loan words is systematically rendered as *-ęʒь*, e. g. OCS *kъnęʒь* < **kuning*(*az*) 'prince'; the treatment is the same in loan roots: OCS *cęta* 'coin' < Go *kintus*, Cz *vánoce* 'Christmas' < OHG *wînnahten*; SChSl *ǫgrinъ* 'Hungarian' as a parallel form of MGr Οὔγγροι, MLa *Ungari* ~ *Ungri* probably goes back to an Alt form beginning in *ung-*.

It is to be inferred from these data that *ĭ̦ ŭ̦* were not denasalized, but acquired a broader articulation so that *į* coalesced with *ę* and *ų* with *ǫ*. Of the two possibilities demonstrated by Ka, CS chose the second: the broadening of the nasalized vowels. The existence of *į* and *ų* in CS was probably only transitory.

9. Chronology of the rise of nasal vowels. Reflexes of Sl nasal vowels are frequent in CS loan words and place-names taken from neighboring non-Sl languages, as well as loan words and place-names of Sl origin in those languages. These borrowings are important for our knowledge of how long the nasal vowels were retained in Sl. Yet they are inconclusive as to chronology of their rise, for none of the adjacent or otherwise contacted languages had nasal vowels. Therefore, whether CS had a sequence of a vowel followed by a nasal consonant (CVNC) or a nasal vowel (CV̜C), its counterpart in the neighboring languages was in any case vowel + nasal consonant (CVNC).

Thus, if **Lǫkavica*, place-name in Thuringia, recorded in G sources as *Lanquizza* (932), *Lancwizi* (1108; present *Langwiesen*), consistently has *a* followed by *n*, it means that at the time of early Sl-G contacts in this area the Slavs had either *ₒa*N or *ǫ* and not yet *u* (as in So), but it does not specify which of the two.

A few further examples classified according to languages include:

Mongolian (probably Avar) *(*h*)*oruŋgo* 'sign, flag' represented as R *xorúgv'*

'gonfalon', Sk *korúhev* 'flag', Cz *korouhev*, Sn *koróglа*, SC *hòrugva*, Bg *xorə̀gva*. OCS had *xorǫgy* with a nasal vowel and so does P in *chorągiew*.

Fi *kuontalo* 'tow', *suntja* 'sacristan', Est *sundima* 'to force', *sundimine* 'enforcement', *und* 'fishing rod', Liv *ūnda*, Chuvash *kămpa* 'mushroom' resp. stem from Sl **kǫd*- (P *kądziel* 'distaff', R *kudél'* 'tow'), **sǫd*- (P *sąd* 'court', R *sud*), **ǫd*-(P *węda* 'fishing rod', R *údka*), *gǫb*- (P *gąbka* 'sponge'), and show that nasality still existed at the time of early Sl-Fi contacts.

The same applies to OPr, cf. OPr *cunclis* 'cockle' from **kǫk₀ali* (P *kąkol*, R *kúkol'*), *swints* 'saint' (OCS *svętъ*, R *svjatój*).

OHG also affected Sl vocabulary while nasality still was in existence: **stǫp₀ā* 'mortar' (P *stępa*, R *stúpa*), **trǫb₀ā* 'trumpet' (P *trąba*, R *trubá*), **ǫb₀ar*- 'bucket' (P *węborek*, OR *uborъkъ*, a measure of capacity) come from OHG *stampf* 'stamper', *trumba*, *ambar*. Sn *Koroško* 'Carinthia', *Korotàn* 'Carinthian' as well as OR *xorutane* 'Carinthians' (Kiev Chr) go back to OHG *Charanta* and MLa *Carantani* (Venet *caranto*- 'mountain').

Reflexes of nasal vowels are found of course in the earlier borrowings from Go: OCS *xǫdožьstvo* 'art' from Go **handags* 'skilful', OCS *velьbǫdъ* 'camel' < Go *ulbandus*, *cęta* 'coin' < *kintus* 'quadrans', etc.

MLa also supplied CS with several words containing nasal vowels, e.g. OCS *kolęda* 'new year's day' from La *calendae* (Gr καλάνδαι), OCS *skǫdělь* 'potsherd, tile' from La *scandula* 'shingle', SC *sut*- ~ *su*-, first component in many compound place-names, as *Sutivan*, *Sȕpetar*, *Sumartîn* (Dalmatia) from La *sanctus* 'saint'. On the other hand, Rm abounds in Sl loan words with a nasal element lost in the adjacent Sl languages. CS *ǫ* has two substitutes in these Rm loan words. One of them, *un*, is considered to go back to late CS or Proto-Serbian dialects; the other, *yn* (spelled *în*), to early Bg, e.g. *lúncă* 'meadow', *múncă* 'labor', *porúncă* 'order', *scump* 'expensive'; *dobîndí* 'acquire', *Dîmbovița*, *Glîmboca*, place-names, etc.

Thus, all CSl dialects including those which have lost nasal vowels had nasal elements in these words and in general until the time of Sl-Fe, Sl-OHG and Sl-Rm contacts.

The only possibility of establishing when the nasal vowels replaced the groups V + N (+C) or V + N + # (i.e. in final position) is provided by relative chronology. Several interdependent facts are relevant for this purpose.

a) The rise of nasal vowels undoubtedly falls into the period after the change of clusters *n* + *j* into *n'*, as demonstrated by forms of the type OCS *vonja* 'smell', *ženjǫ* 'marry' (1 sg), *klonjǫ* 'tilt', *konjь* 'horse'. If, e.g. in *vonja* the rise of nasal vowel had preceded the change of *nj* into *n'*, the result would have been ⁺*vǫja*, the normal development of the group V + N before a consonant[4]. Nor did *m* yield nasalization of the preceding vowel in cases like OCS *zemlja* 'earth', *lomljǫ* 'break' (1 sg). This shows that a stage should be posited for

[4] A special problem is posed by Sn *zastǫ́nj* 'freely, in vain' corresponding to OCS *tunje* 'freely', Sn *stúnja* 'idler'. Sn has *ǫ* from *ǫ* while OCS and the other Sn forms show *u* not nasalized. Presumably the word entered into some Sn (or Proto-Sn) dialects when the change *nj* > *n'* did not operate any longer.

CS (at the transition *mj* > *ml'*), during which the syllable boundary was fixed after the vowel (*ze mlja*).

b) Further unambiguous evidence that the nasal vowels arose before the third palatalization of velars is shown in 23,10.

These indications give for the rise of nasal vowels the span of time between the sixth century and the eighth century.

There are some other clues which can shed more light on the chronology, but they are not as unequivocal as the first two.

c) It may be assumed that the nasal vowels arose after the monophthongization of *i*-diphthongs, to wit after *ₒai* > $\check{e}_2$: P *jarząb* 'rowan (tree)', R *rjaboj* 'many colored', etc. (data cited in full in section 6) corresponding to Li *raĩbas* 'many colored', etc., contained *ₒai* with expressive nasalization. This nasalization presumably developed after *ₒai* changed into $\check{e}_2$, otherwise only *i*, the final component of the diphthong, would have been nasalized and the first component of the diphthong *ₒa* probably would have developed into a separate vowel of the *o*/*a* type. Since however the example is unique and, in addition, not represented in OCS, the whole line of reasoning is highly conjectural.

d) It may be assumed with somewhat greater safety that the nasal vowels arose after the first delabialization of vowels. There is no material concerning roots. One may suppose the first delabialization of rounded vowels in CS *(*j*)*ę-čājā* (SChSl *jęčaja* 'cell', R *jačejá*) and *(*j*)*ęčimū* (R *jačmén'* 'barley', P *jęczmień*, etc.), whose root corresponds to Li *ánka* 'loop', Gr ὄγκος 'barbed hook', OHG *angul* 'hook'. In apparently contradicting Sn *pâjok* 'spider', etc., which has the same root the CS form was **pₒāǫk-*, without *j* (See R *paúk*, etc. as cited in sections 3a and 16,7). In reality, however, it was not *j-* which caused *ₒa* > *ₑa* but *ₑa* which caused the appearance of the prothetic *j*. Obviously there was *ₒa* : *ₑa* alternation in this root.

More reliable conclusions may be inferred from the development of gen sg and nom-acc pl endings of *jā*-stems (OCS *zemjlę*), acc pl of *jo*-stems (OCS *konję*), etc., *-ę* going back to *-(*j*)*eNs*, which in turn developed from *-*joNs*. It might be objected that endings are not very reliable for general conclusions. They are easily susceptible to analogical levelings, even contrary to the general phonetic trend; furthermore, in the case of the group V + N they had some important peculiarities even in their phonetic development, as will be duscussed in sections 11 and 12. A thorough analysis of generalizations in the CS endings, however, enhances the reliability of the facts referred to. As early as the oldest Sl texts one finds certain far-reaching generalizations of *ǫ* at the expense of *ę* in the endings of some morphological categories: all verbs (except the fifth class) have *-ǫ* in 1 sg pres, independent of the character of the preceding consonant, and so does the pres act part of first, second and third class verbs in oblique cases (*glagoljǫ* 'speak' like *idǫ* 'go'; *glagoljǫšta* like *idǫšta*, gen sg masc); the same is observed in the acc sg of *jā*-stems (*zemljǫ* 'earth'). These cases defy the principle of intrasyllabic harmony and the rules of the first delabialization of rounded vowels. It is characteristic that they occur with *ę* ~ *ǫ* but never with *e* ~ *o*. Consequently, it may be assumed that they developed after the

rise of nasal vowels, not prior to it. On the other hand, a certain time was needed to develop these levelings after the time of the first delabialization. This would place the rise of nasal vowels soon after the first delabialization.

One more indication as to the chronology of the rise of nasal vowels is supplied by the treatment of Rom *Stamnum* (< La *Stagnum*), a place-name in Dalmatia, cited in section 7. As shown by its present-day form *Stȍn*, no nasal vowel arose in this word; instead the cluster *mn* was simplified into *n*. It may be inferred from this that at the time of Sl settlement in Dalmatia CS had not yet begun to develop nasal vowels. This gives as the earliest date for the rise of nasal vowels the late sixth or the early seventh century.

Thus, the nasal vowels arose after the change *nj* > *n'* (fifth – to eighth century), soon after the first delabialization of rounded vowels (sixth – seventh century), probably after the change ${}_{o}ai$ > $\check{e}_2$ (sixth – seventh century), after the Sl settlement in Dalmatia (sixth – seventh centuries) and before the third palatalization of velars (seventh – eighth century). It may be concluded, then, that placing the rise of nasal vowels in the time around the seventh century cannot be far from historical reality. In some Sl languages nasal vowels were lost by the eleventh century (ESl, Sk, Cz, SC, possibly Sn). In those languages the nasal vowels did not last longer than three or three and a half centuries. They existed longer in So and Bg, still longer in M, while Pb preserved them until the time of its extinction and P still retains them, for more than a millenium.

For more about the chronology of the rise of nasal vowels in endings see section 12.

10. Phonetic value and phonemic status of nasal vowels in CS. As suggested in section 1, at the initial stage of their development the nasal vowels preserved the original quality of the vowel in question, simply adding nasal resonance: *i*N > *į*, ${}_{e}a$N > ${}_{e}ą$, *u*N > *ų*, ${}_{o}a$N > ${}_{o}ą$. At least for *į* and *ę* (${}_{e}ą$) the original distinction is directly confirmed by the fact that the third palatalization of velars took place after the nasal vowel originating from *i*N but not after that with underlying ${}_{e}a$N (See 23,2). But by the time of the first records Sl had only two nasal vowels, one front and one back: *ę* and *ǫ* in conventional rendition. The phonetic value of the sounds remains to be determined.

To judge by later reflexes of "*ę*" in those Sl languages which denasalized the nasal vowels, it was in its oral quality close to ${}_{e}a$: its reflexes vacillate between *e*, typical of SSl, and *a* with palatalization of the preceding consonant in NSl. Its open quality is also manifested by the fact that occasionally it substituted for *a*N in borrowed words in such occasional spellings as OCS *Aleksędrovu* 'Alexander's' (dat sg) (Mar), *Kъsnętinjь gradъ* 'Constantinople' (Su), although in other instances *ę* stands for *e*N (e.g. *Pętъtikostie* 'Pentecost' – Prague Fragments; *septębra* 'September', gen sg, – Sav). OSn also betrays (in FrFr) the open character of *ę*, denoting it now *en* (*vuensih* = **vętьšixъ* 'larger', gen pl) now *a*(N) (*uuasa* = **vašę* 'your', acc pl masc; nasalization not indicated in spelling). In OR MGr φράγκος 'Frank' is rendered as *frjagъ* with *'a* from *ę* (but

SChSl *frugъ*!), OSw *stang* 'pole' as *stjag* (U *stjah* 'banner') also with *'a* from *ę*.

The phonetic value of *ǫ* varied in diverse Sl languages after the disintegration of CS. For ESl evidence is furnished by the Fe languages in which it is consistently rendered by *un* (Fi *suntja*, Est *und*, etc., as cited in section 9), for SWSl by Alb (Alb *Shkumbi*, river-name, rendering Sl *skǫ-*, which goes back to La *Scampa*); also *un* of other languages is taken into Sl as *ǫ*, e.g., in OR *ugrinъ* 'Hungarian'. Judging by reflexes of *ǫ* the same close character can be assumed for the area of So, Sk, Cz, SC, and probably Sn, but not for P, Pb, M and Bg where a rather more open pronunciation may be presumed[5]. Even in those dialects it probably was narrower than that of *ę*, since in Sl loan words foreign *a*N is occasionally rendered as *ę* but seldom as *ǫ*, while *ǫ* corresponds mainly to *u*N of foreign languages, cf. R *xútor* 'farmstead', U *xútir*, from OHG *huntari* 'detachment', and also SChSl *drǫgarъ*, 'a military commander', from MGr δρουγγάριος; cf. Gr Μουντενίτσα, place-name near Thessaly, from Sl **Mǫtьnica*, based on *mǫtьnъ* 'turbid, muddy' (along with *on*-renditions as Λογγά, place-name in the Messene area, from Sl **lǫka*). Whether this was a result of later differentiation in dialects or whether from the very outset *ų* and *₀ą* merged in some dialects as *ų* but in the others as *ǫ* or *₀ą* is hardly ascertainable.

The nasal vowels of CS were not independent phonemes. They were in complementary distiribution with the groups V + N: the latter were used before vowels only, the former before consonants and in word-final position. Phonemically *ę* was /ₑaN/, *ǫ*, /₀aN/ (or /uN/). In any non-prevocalic position nasal quality was not allowed to follow a vowel and became a simultaneous (superimposed) feature in the articulation of the vowel. Phonemically it meant that the opposition of *m* and *n* was neutralized in this position; later, when *į* coalesced with *ₑą* and *ų* with *₀ą* the oppositions within nasalized front vowels and those within nasalized non-front vowels were also suppressed. Hence the rise of nasal vowels entailed a decrease in frequency of certain oppositions; but it did not reshape the phonemic inventory of the language. Further regroupings without any loss or gain in the phonemic inventory occurred later in those Sl languages in which the nasal vowels, after denasalizing, coalesced with other vowels in the language (e.g. *ę* with *e*, *ǫ* with u_2, etc.).

11. Conditions and effects. As stated in 21, 8, the first and second palatalizations of velars, which introduced new consonantal phonemes and new alternations of consonants, were the first harbingers of a new trend in the phonetic development of CS, a trend which ensuing from the preceding evolution toward a "vocalic" language at the same time created the prerequisites for the end of this tendency. Yet the new trend did not immediately suppress the changes toward a "vocalic" type of language. For a certain time the two contrary tendencies operated simultaneously, the old one gradually petering out and the new one gaining.

[5] For dialects related to Pb cf. G *Spandau*, place-name (now a part of Berlin) from Sl ***spǫd*-(*ovo*).

The rise of nasal vowels was one more link in the chain of developments toward a uniform type of syllable (CV or CCV or rarely CCCV), a type which marked with extreme clarity the "vocalic" type of language. After the loss of diphthongs proper the nasal "functional diphthongs" had no support in the symmetry of the system of diphthongs, nor in vowel alternations: both were obscured by the preceding changes. The nasal diphthongs were transformed into monophthongs so that syllables of the type CVN (+ C . . .) changed into CV (+ C. . .), where V stands for a nasal vowel. While the original distribution of sonority within a syllable of that type had been



now it became



and this was the same effect as in the monophthongization of *u* and *i*-diphthongs although attained by different means: not by assimilation of the first component to the second, as in *u*-diphthongs and $_{e}ai$, nor by metathesis as in $_{o}ai$, but by concentrating all the essential features of the nasal diphthongs (oral quality of the vowel and nasal quality of the second component) in the first, plainly vocalic component of the diphthong. From this point of view the rise of nasal vowels was a new, third, episode in the monophthongization of the old (IE) descending diphthongs.

Initially the loss of nasal diphthongs had little effect upon the system of phonemes or vocalic alternations because (as stated in section 10) they never had been full-fledged phonemes. A more tangible change occurred when all front nasal vowels coalesced in *ę* and all non-front vowels in *ǫ*. This was tantamount to suppression of the difference between full grade and reduced grade of vocalic alternations before N. Along with the preceding losses and shrinkage of the system of vowel alternations this was a further blow to the system which now inevitably moved toward complete loss of internal motivation and ultimate disintegration. In this respect the monophthongization of nasal diphthongs which was a part of the development toward a "vocalic" type of language at the same time paved the way to a "non-vocalic" type of language: while the alternations of vowels became more and more obscure functionally the importance of the recently introduced and quite symmetrical consonantal alternations grew stronger.

In the rise of nasal vowels CS was unique in its geographic environment. None of the languages with which the Slavs of the time were in contact had or developed nasal vowels, except probably Li and Le. But if there were any reciprocal influences between Sl and Balt in this respect, the motive forces could have come from Sl to Balt and not vice versa. In Sl it was a part of the general trend toward eliminating descending diphthongs and it was made possible by gradual loss of motivation in vocalic alternations. In Balt all other diphthongs were kept intact and the system of vocalic alternations remained alive and productive.

12. Vowel + nasal consonant in endings: non-front vowels. As shown in 15,2, final nasal consonants were lost after short vowels in an ancient period of CS, before the long diphthongs shortened and Fortunatov's law operated[6]. Even prior to that, *ŏ* changed into *ŭ* before final nasal consonants (See 10,6). Because of this early loss of final nasal consonants no nasal vowels could have arisen in place of IE endings consisting of a short vowel followed by a nasal consonant. What is found in this case is -*ŭ*, as represented by OCS -ъ (e.g. acc sg *rabъ* 'slave', from *-*o*N, *synъ*, from *-*u*N, cf. OI *gurúm* 'teacher', Gr πέλεκυν 'axe', La *fructum* 'fruit').

In the case of final originally long non-front vowels followed by a nasal consonant the development in the endings did not differ from that in internal position. A nasal vowel arose, represented in late CS and OCS by -*ǫ*, e.g. acc sg of *ā*-stems (*rabǫ* from *raba* 'slave', fem, with -*ǫ* <*-*ā*N, cf. OI *sutā́m* from *sutā* 'daughter', Gr σκιάν from σκιά 'shadow', La *insulam* from *insula* 'island'[7]). 1 sg pres (*berǫ* 'take' with -*ǫ* from *-*ō*N, cf. Gr φέρω. La *ferō*, Go *baíra*, in Sl with added -N from the system of secondary endings).

Important deviations from the rules of normal word-internal development are found in final syllables in which N was followed by -*s*. Both long and short vowels occurred originally in this position. Long vowels are reconstructed for nom sg of masc cons stems, of the type OCS *kamy* 'rock', from *-*ōns* with *n* being the theme (cf. Gr ἄκμων 'anvil', Li *akmuõ*, gen sg *akmeñs* 'rock', Le *akmens*) and -*s* added secondarily as a mark of the nom sg masc[8]; the length however was lost when CS eliminated long diphthongs. Short vowels (*ŏ*, *ă*) before final *ns* were represented in acc pl of *o*- and *ā*-stems, which in this case had the endings IE -*ŏns*, -*ăns*, CS -*ŏns*, -*ăns* (Cf. OI *stān*, from *sutás* 'son', Gr [Argive, Cretan] λύκονς from λύκος 'wolf', Go *wulfans*, Li *vilkùs*, OPr *stans*, from *stas* 'that'). This also refers to the suffix of the pres act part *-*on*(*t*)*s*[9] (the type OCS *bery* 'taking'). It is to be assumed that *ŏ*, *ă* before final *ns* underwent

[6] Final N after short vowels was retained only in prepositions because phonetically they often were just a part of the word that followed. This is seen from the fact that after the general loss of final consonants their -*n* was preserved in certain instances attached to the following word, particularly in the oblique cases of the third-person pronouns (See 15,7). Their final consonant is always -*n*, never -*m*, although genetically both could be expected: CS **n̥* (or **on*), which changed into **un* and then **vun* (OCS *vъ* 'in'), ended in *n* (Cf. OPr *en*, Gr ἐν, La *en* ~ *in*, Go *in*); **kum* (or **kom*, OCS *kъ* 'to') ended in *m* (Cf. OI *kam*, Av *kąm*), whereas OCS *sъ* 'with' is the result of the merger of two original prepositions, **sm̥* ~ **sem* ~ **som* (Cf. OI *sam*, Av *ham*-, etc.) and **k'om* (La *cum*, Ir *com* ~ *con*), both ending in *m*. It is thus possible, that final *m* in CS changed into -*n* before it was lost, so that CS could no longer have final *m* any more, similar to the development in Gr but independent of it.

[7] On the origin of length in this vowel see 4,11.

[8] This -*y* is well preserved if it was "covered" by a following suffix, as in P *kamyk* 'pebble', *płomyk* 'little flame', *promyk* 'ray'; also possibly in such cases as R *kory-to* 'trough', *kopy-to* 'hoof'. Cf. P *kamień*, *płomień*, *promień*, R *kóren*'.

[9] *ts* changed into *s* prior to the developments discussed. See 13,2.

narrowing in CS so that by the time of the loss of final *s* (ca. sixth century A. D., see 15,5) this vowel was close to or identical with *u*.

Thus the original **-ōns*, **-ŏns*, **-ans* coalesced in **-uns*. The loss of *-s* was accompanied by lengthening of this vowel: **-uns* > **-ūn*[10]. When the groups V + N changed into nasal vowels these endings became *ų̄*. The peculiarity of the development in final position was that while in all other positions *ų* coalesced with *$_{o}$ą*, it did not here. Instead it lost its nasalization: **-ų̄* > *-ū*. Later, as in all other positions, this *ū* yielded *y*, as is well attested in OCS (*vlьky*, like *kamy*), as well as in other Sl languages. In all probability *-ų̄* was denasalized soon after it arose, before the coalescence of *ų* with *$_{o}$ą*. For this reason it preserved its *u*-character.

It follows from the above that the development of the groups V + N in endings differed from that in other positions by a) the narrowing of originally short vowels and, before *-ns*, also originally long vowels; b) lengthening of those short vowels after which *-s* was lost; and c) early denasalization of *-ų̄*, which precluded its merger with *$_{o}$ą*. These three peculiarities arose in different periods of CS history. The sequence of the developments concerning the endings may be presented schematically as follows:

1) *ŏ* > *ŭ* before *-n* and *-ns* } Early CS prior to loss of length
2) Loss of *-n* after short vowels } in diphthongs
3) Shortening of long diphthongs
4) Coalescence of *ŏ* and *ă*, *ō* and *ā* in all positions — Ca. first century B.C.
5) Loss of *-s*. *-uns* > *-ūn*. — Ca. sixth century A.D.
6) Rise of nasal vowels. *-$_{o}$a*N (from *-ō*N, *-ā*N) > *$_{o}$ą*; *-ū*N (from *-ŏns*, *-ăns*, *-uns*) > *-ų̄*. — Ca. seventh century A.D.
7) Denasalization of *-ų̄* (*-ų̄* > *-ū*) — Soon after (6).

The same developments presented in examples:

	Acc sg *o*-stems	Acc pl *o*-stems	Acc sg *ā*-stems	1 sg pres	Nom sg masc pres act part	Nom sg *n*-stems
0)	*vilko*N	*vilko*N*s*	*nogā*N	*berō*	*bero*N*ts*	*kāmō*N
1)	*vilku*N	*vilku*N*s*		↓	*beru*N*s*	*kāmō*N*s*
2)	*vilku*		↓	*berō*N		↓
3)			*noga*N	*bero*N	↓	*kāmo*N*s*
4)		↓	*n$_{o}$ag$_{o}$a*N	*b$_{e}$ar$_{o}$a*N	*b$_{e}$aru*N*s*	*k$_{o}$ām$_{o}$a*N*s*
5)		*vilkū*N	↓	↓	*b$_{e}$arū*N	*k$_{o}$āmū*N
6)		*vilkų̄*	*n$_{o}$ag$_{o}$ą*	*b$_{e}$ar$_{o}$ą*	*b$_{e}$arų̄*	*k$_{o}$āmų̄*
7)	↓	*vilkū*	↓	↓	*b$_{e}$arū*	*k$_{o}$āmū*
OCS:	*vlьkъ*	*vlьky*	*nogǫ*	*berǫ*	*bery*	*kamy*

[10] This lengthening is often considered as compensatory for the loss of *-s*, although as shown in 15,4 the loss of *-s* usually did not bring about any changes in the foregoing vowels. It is rather a result of the nasalization, as in Li (See section 2).

13. Vowel + nasal consonant in endings: front vowels. It is necessary to distinguish, in regard to their treatment in endings, between front vowels of IE origin (or from IE N̥) and those due to the first delabialization of vowels in CS.

The former are represented by *ĭ* and *ĕ*. They followed the same rules as non-front vowels, i.e. they had three developments according to the character of the endings:

a) In the endings of -*ĭ*N (< -*i*N, -N̥), -*e*N type -N was lost in early CS, long before the rise of nasal vowels. Consequently, no nasal vowels developed in such cases. They are represented in acc sg of *i*- and consonantal stems, e.g. OCS *pǫtь* 'road', *kamenь* 'rock' (< **po*N*ti*N, **kāmen*N̥, cf. OI *pāṇím* 'hand', Gr πόλιν 'town', La *puppim* 'stern') and in loc sg of consonantal stems, e.g. OCS *kamene* (< *-*ene*N).

b) In endings of the *-*ĭ*N*s* type (acc pl) *i* lengthened when -*s* was lost and was nasalized into *į* which, after denasalization, yielded *ī*, e.g. OCS *pǫti* (Cf. Gr Cretan πόλινς 'towns', Go *gastins* 'strangers', OPr *swīrins* 'animals').

c) Final *ē*N developed as in internal position, giving -*ę*. This is the case of acc sg of the personal and reflexive pron, OCS *mę*, *tę*, *sę* (Cf. OI *mā́m*, *tvā́m*, Av *mąm*, *ϑwąm*, OPr *mien*, *tien*, *sien*).

As for the front vowels of later date, due to the first delabialization of rounded vowels, regular treatment is found in nom sg of pres act part, masc and neut: IE *-*onts*, with lengthening after the loss of -*s* and with *ō* changed into *ē* (or more probably *ū* > *ī*), as a result of the first delabialization, gave -*ę*: OCS *glagolję* 'saying', *znaję* 'knowing', OP *szukaję* 'seeking', *każę* 'ordering', OR *iměja* 'having', *kaža* 'instructing'.

In acc sg of *jā-stems*, 1 sg pres of third and fourth class verbs, 3 pl of third class verbs, and in nom sg fem, nom pl and oblique cases of pres act part *ǫ* was reintroduced under the pressure of morphological factors (But see 18,3).

In the remaining cases, viz. acc pl of *jo*-stems and in gen sg, nom and acc pl of *jā*-stems -*ę* is expected (Early CS endings were here *-*jo*N*s*, *-*jā*N*s*[11]; after the lengthening which accompanied the loss of -*s*, *-*joā*N or -*jū*N; after the first delabialization *-*jǟ*N or -*jī*N, hence normally -*ę*). This is found in OCS *zemlję* 'earth', *konję* 'horses'. Accordingly, the Mo SSl languages have the reflexes of -*ę* in their endings for these cases, e.g. in acc pl Sn *zemljȩ̂*, *kónje*, SC *zȅmlje*, *kònje*, Bg *koné*.

In the NSl languages, however, instead of the expected *ę*, *ě* and its reflexes are found consistently, from the oldest texts up to the present day, e.g. U *zémli*, *kóni*, P *ziemie*, *konie*, LS *zemje*, *konje*, US *zemje*, *konje*, Sk *zeme*, *kone*, Cz *země*, *koně*. R *zémli*, *kóni*, Br *zémli*, *kaní* have -*i* by analogy from *o*-stems; in the Old and Middle periods of their histories these languages still had reflexes of *ě*, e.g. *požně* (gen sg) from *požnja* 'field' (Novgorod, Charter, 1264–65), *vъ černice* (acc pl) 'nuns' (Novgorod, Testament, prior to 1270), etc.

[11] They are IE in pl; in gen sg of *jā*-stems they are to be traced back to the interplay of *jā*- and consonantal stems.

The cause of the NSl substitution of *-ě* for *-ę* is not quite clear. The substitution is limited to the endings of the nominal and pronominal declension. Therefore it is more plausible to see in it a morphological, not a phonetic development. In endings which are longer than other endings in the paradigm there is a latent universal tendency to dispose of the final parts, provided the remaining part secures the identity of the form. An example of a development of this type is instr sg fem in Mo R: *zemlëj*, *krýšej* 'roof' instead of (and along with) the older *zemlëju, krýšeju*. A similar situation existed in CS after the loss of final *s* and before the rise of nasal vowels. The paradigm of (OCS) *konjь* may be reconstructed for that period as

nom sg **k$_o$ań-i*
gen sg **k$_o$ań-$_o$ā*
dat sg **k$_o$ań-ū*
acc sg **k$_o$ań-i*
loc sg **k$_o$ań-ī*
nom pl **k$_o$ań-ī*
gen pl **k$_o$ań-i*
acc pl **k$_o$ań-ēN*, etc.

The final N was definitely out of the pattern: the great majority of endings consisted of a vowel not followed by a consonant. It may be supposed that NSl dropped this -N at that time[12]. Presence of the optional initial consonants (mobile consonants) in the language of the time (See 15,7) facilitated the loss of this -N.

If this explanation is correct, it adds a feature of dialectal division in CS prior to the rise of nasal vowels, i.e. prior to the seventh century[13]. It may be assumed that if the SSl dialects did not follow this development it might have been due to the earlier rise of nasal vowels in the South, a peculiarity in their phonological development.

In personal pronouns -$_e$aN (> *ę*) was preserved because it carried the burden of opposition between the full and enclitic forms (*mę, tę, sę* vs. enclitic *me, te, se*), in verbs and participles because there was no pattern of one-vowel endings (OCS *piš-ǫ, piš-eši*, etc.; *znaję, znajǫšta*, etc.). In participles, moreover, N was represented in the whole paradigm so that the loss of it in the nom sg would weaken the cohesiveness of the forms. In the acc sg of *ā*-stems the loss of -N would entail homonymy of the voc and acc (if **rūb-$_o$a*N became *⁺rūb$_o$a* it would be identical with **rūb-$_o$a* 'fish'); what is more important, this type of declension

[12] There were cases with "heavier" endings: instr. sg *k$_o$ań-$_e$ami*, dat pl **k$_o$ań-$_e$amu*, loc pl **k$_o$ań-īxu*; but in these endings the final vowel could not have been dropped because this would have created a closed syllable. Besides, these three forms constituted a clearly shaped group of disyllabic endings and were well integrated within the paradigm while the -$_e$*ā*N ending was not.

[13] It is impossible to assume that first the nasal vowels arose in CS as a whole and then in NSl nasality in these endings was lost. A nasal vowel was a vowel like any other and would enter the pattern without any estrangement or resistence, along with such endings as -$_o$*ā*, etc.

had strong ties with the pronominal declension as shown by the reshaping of the instr from (OCS) *rybǫ* into *rybojǫ*, and these ties favored the preservation of -N in the acc.

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23. THIRD (PROGRESSIVE) PALATALIZATION OF VELARS AND OTHER TRANSGRESSIVE SOUND CHANGES

1. Transgressive sound changes in CS. 2. Third palatalization of velars. 3. Examples of CS character. 4. Examples of deviations and doublets. 5. Approaches toward explaining the irregularities of the third palatalization. 6. Summary. 7. The third palatalization, coterritorial and adjacent languages. 8. Concomitant delabialization of vowels. 9. Absolute chronology of the third palatalization. 10. Relative chronology of the third palatalization. 11. Outlook. 12. Repercussion of the third palatalization in vowel alternations: third zero grade. 13. Labialization of *e* before *v*. 14. Problem of *ₑa* before *j*. 15. Other manifestations of the trend toward word harmony.

1. A series of sound changes in the predivisional CS language, as shown in the preceding chapters, was based on reciprocal assimilation of vowels and consonants in a syllable: either the vowel adapted itself to the preceding consonant or the consonant changed so that its articulation better "agreed" with the following vowel. The regressive direction is well represented by the first and second palatalizations of velars, the progressive one by the first delabialization of rounded vowels. The new monophthongs which replaced the diphthongs inherited from IE either fitted into the syllables in which they developed or else in turn caused changes in the preceding consonants.

This intrasyllabic character of the phonetic changes in CS at the time of its incipient disintegration is particularly striking if compared with the earlier developments, which did not at all depend on structure of syllable. For example, the loss of palatovelars occurred in all positions; the rise of *x* depended on phonetic environment, primarily the presence of *k*, *r*, *u*, *i*, but whether or not *s*, to be changed into *x*, belonged to the same syllable as these sounds was irrelevant.

The first breach in the intrasyllabic character of phonetic changes in late CS was the expansion of the "harmony" achieved within a syllable to the adjacent syllable. It was, thus, a transgression of the syllabic boundary, which could be either progressive or regressive. In the following text these sound changes spreading beyond syllabic boundaries will be called transgressive changes. Theoretically, transgressive changes could have led to a regeneration of intrasyllabic harmony into a harmony of larger units, eventually into word harmony. As will be shown in section 15, they did not go so far; in the long run they remained limited in scope and nowhere became even limitedly systematic; but they did help undermine the principle of intrasyllabic harmony. As often occurs, an excess in the implementation of a certain tendency is a harbinger of the forthcoming extinction of that same tendency.

There were undoubtedly two transgressive changes in CS: the third palatalization of velars which had (unlike the first and second palatalizations) a progressive character; and the labialization of *ₑa* before *v* followed by a non-front vowel, a development in the regressive direction. There may have been a third transgressive change, also of regressive character, notably the narrowing of *ₑa* before *j*; but this is questionnable.

2. Third palatalization of velars. After the front vowels: *ĭ* and *ę* < *ĭ*N (i.e. **į*) velars were palatalized, with the same outcome as in the second palatalization. Articulatorily, this is a rather ordinary kind of progressive assimilation and occurs in many languages with different phonetic systems. Consider, e.g., the different pronunciations of graphic *ch* in G in *mich* vs. *doch*. R dialects (roughly eastern SR and NR) have the same phenomenon after palatal and palatalized consonants ([ván'k'a] 'John' vs. [kónka] 'horse car', in standard R both ending in -[ka]).

In CS this progressive palatalization of velars was caused only by *i*-series vowels; neither *ₑa* (*e*), *ₑā* (*ě*) nor *ę* < *ₑa*N produced it, an additional proof, incidentally, that the final part of the *e*-series vowels was non-front and low, of the *a* type, and that later *ę* is a common reflex of earlier**į* and *ę* (See 11,1 and 22,10). Even after *i*-series vowels the third palatalization was subject to quite a few restrictions.

Putting off discussion of deviations until sections 4–6, the general formula for the third palatalization is thus: after *i*-series vowels *k* yielded *c*, *g* yielded *ʒ* (> *z*), *x* yielded *s*' (in E and SSl) or *ś* (> *š*, in WSl). Note that the velars which underwent the third palatalization belonged to the following syllable, not to the one containing the *i*-series vowel.

3. Examples of CS character. Examples in which all the Sl languages consistently show the expected results are not numerous. They are:

a) After *ĭ*: OCS *ovьca* 'sheep', R, Bg *ovcá*, U *vivcjá*, P *owca*, LS *wejca*, US *wowca*, Sk, M *ovca*, Cz *ovce*, Sn, SC *óvca* – Li *avìkė* 'lamb', OI *avikā́* 'sheep';

OCS *vьsь* 'all', R *ves'*, Br, U *uves'*, P *wszystek*, Pb *vės* (vis-teide 'all time'), LS *wšyken*, US *wšón*, Sk *všetok*, Cz *všechen*, Sn *vès*, SC *sȁv* (with metathesis of *s* and *v*), M *siot* (with *v*- lost), Bg *vsíčki* (pl) – Li *vìsas*, Le *viss*, OPr *wissa*-. Yet while in this word the modern Sl languages show regular reflexes of *x*, there is evidence that ONR preserved *x*: the Nóvgorod charter for the monastery of Xutyn' (soon after 1192) has *vxou že tu zemlju* 'all this land'; the Novgorod Chronicle (Synod copy) has *vxe polъ* 'all the shore'; and the Novgorod birchbark letter No. 87 has *kъ vьxemo vamo* 'to all of you'. If R dial (Tver') *vigde* 'everywhere' goes back to **vьxъde* it would mean that *x* forms in NR have not diasppeared until now.

There are no reliable examples of *g* > *ʒ* after *ĭ*.

b) After *ī*: OCS *lice* 'face', R *licó* (possibly though a loan word from OCS), P *lice* 'face, cheek', LS, US *lico* 'cheek', Sk, Cz, Sn, SC *líce*, M *lice* 'face', Bg *licé* – OPr *laygnan* 'cheek' (misspelling of **laiknan*), Ir *lecco*;

RChSl *trizь* 'three-year-old (animal)' – Li *treigỹs* 'three-year-old'; SC *dvîze* 'two-year-old lamb' – Li *dveigỹs* 'two-year-old', OHG *zwīg* 'twig', Hi *da(i)ugas* 'two-year-old'. The words are not attested in the other Sl languages and there is no example with *g*>*ʒ* which would be present in all the Sl languages.

There are no examples for *x* in this position.

c) After *ę* (< **į*): OCS *měsęcь* 'month, moon', R, Br *mésjac*, U *misjac*', P *miesiąc*, LS *mjasec*, US *měsac*, Sk *mesiac*, Cz *měsíc*, Sn *mêsec*, SC *mȅsēc*, M *mesec*, Bg *mésec*. This is a CS *k*-diminutive derived from an -*n̥*-stem with the IE root represented in CS as **mēs*-. For the history of this word see 22, 5.

Similar in structure is CS **zai-n̥-k*- 'hare' as reflected in OR *zajacь* (R, Br *záec*, U *zájec*' adapted later to subst with the suffix ⟨'#c⟩), P *zając*, US, Sk *zajac*, Cz *zajíc*, Sn *zâjec*, SC *zêc* (but M *zajak*, Bg *záek*) – Li *žáidžiu* 'jump', OI *háyas* 'horse', etc. (See 9,4).

CS examples of *g* > *ʒ* (> *z*) are found in loan words only:

RChSl *retjazь* 'chain', U *rétjaz*', OP *rzeciądz*, LS *rješaz*, US *rjećaz*, Sk *ret'az*, Cz *řetěz* – from ON *rĕkendi* (*k* > *c* by the second palatalization; in the form **rₑacįʒi*, *c* > *t* by disimilation from the affricate *ʒ*; see 21, 7);

SChSl *vitędzь* 'knight', R *vitjaz*', US *wićaz* 'hero; vassal', Sk *vit'az* 'conqueror', Cz *vítěz*, Sn *vitez*, SC *vȉtēz* 'knight', M *vitez*, Bg *vítez* – from Germ **víking*- (ON *víkingr*) or ON *hvítingr* 'blond man, noble'.

These words, however, were first borrowed by a single dialect of CS and then spread from one to another; the first word probably never reached SSl. Therefore the palatalization of *g* in these words may have occured in just one or a few dialects and the words may have been borrowed with *ʒ* (or *z*) by other Sl dialects. Consequently, they do not warrant the CS character of palatalization.

There are no examples of *x* > *s ś* after *ę*.

4. Examples of deviations and doublets. Whereas examples of the third palatalization of velars common for all the Sl languages are few, there are many more instances in which part of the Sl languages carried out the palatalization while others did not. In certain cases doublets are found within a language. Examples are:

a) After *ĭ*: OCS *aice* 'egg', R *jajcó*, U *jajcé*, Sk *vajce*, Cz *vejce*, Sn, SC *jájce*, Bg *jajcé* vs. Br *jajcó* ~ *jájka*, P (from 1460; OP *jajce*), LS *jajko*, US *jejko* – cf. Osset *aik* ~ *aikä* 'egg';

OCS *stьʒa* 'path', OP (PsFl) *śćdza*, Pb *stáʒă* (stâtzia), Cz *steze*, Sn *stezà*, SC *stàza* vs. R dial *stegá* (Standard R *stezjá* possibly borrowed from ChSl) – cf. Le *stiga* 'path', OHG *stëg*;

LS *wolša* 'alder(tree)', US *wólša*, Sk *jelša*, Cz *olša*, Sn *jélša* vs. R *ol'xá*, Br *vól'xa*, U *víl'xa*, P *olcha* ~ *olsza*, SC *jóha* (but place-name *Jelsa*, on the island of Hvar), Bg *elxá* – cf. Li *al̃ksnis* 'alder(tree)', Le *èlksnis*.

Further examples are OCS *myšьca* 'muscle', *polьʒa* 'use', *pьcьlъ* 'hell', *gobьʒevati* 'abound'; in verbs, R *scat*' 'urinare'[1].

b) After *ī*. Besides the suffixes, which shall be discussed separately, some examples are found in verbs, e.g. OCS *klicati* 'shout', OCz *klícěti*, Sn *klícati* 'call', SC *klȉcati* vs. R *klíkat*' (*vos-klicát*' from ChSl), Br *klíkac*', U *klýkaty*.

Further examples are OCS *drižati* 'move', SC *ȉcati se* 'hickup', *nȉcati* 'sprout', and OCS *bliscati* 'shine' (although divided from *i* by *s*).

c) After *ę* from **į*: P *jędza* 'fury; witch', Cz *jezinka* 'forest nymph; virago',

[1] Verbs should be treated separately because they were exposed to morphological generalization. Occasionally *c*, *ʒ* were transferred even into verbs which had none of the prerequisites for the third palatalization, cf. OCS *navycaemъ* 'get accustomed' (1 pl) (Su). It seems that *c*, *ʒ* were interpreted as an earmark of imperfective verbs in -*ati* as opposed to perfectives in -*nǫti*. Thus the verb pair *vyknǫti* : (*na*)*vycati* followed the pattern of *kliknǫti* : *klicati*. Irregular *c* in P *macać* 'touch', Sk *macat*', Cz *macati*, etc. vs. Cz *makati* 'feel, touch' might be of this origin, due to the affective character of the word.

Sn *jéza* 'anger', SC *jéza* 'shudder', M *janʒa* 'sickness; boring person', Bg *ezá* 'torture' vs. R *jagá* 'witch', Br *jahá*, U *jahá* ~ *jázja* – cf. Li *ìngis* 'lazybones', Le *îgt* 'cease, faint away', ON *ekki* 'grief';

OCS *dręselъ* 'sad', Sn *dresêl* 'afflicted', SC *drȇseo* 'sad' vs. R *drjáxlyj* 'decrepit', Br *dráxly*, Bg dial (Rodopi) *droxal*. However, if R, Br, and Bg forms go back to *dręxlъ* with no vowel after *x*, they are supposed to preserve the *x* (as does the OCS variant *dręxlъ*. See below).

See also in verbs: OCS *o-tęʒati* 'clasp', *lęcati* 'catch', *posęʒati* 'impinge', *bręca-(nie)* 'clank'[2].

The treatment of velars after *ĭ* and **į* in suffixes is no less inconsistent than in roots. The four suffixes: *-ĭk-*, *-īk-*, *-ęg-*, and *-īx-* are usually mentioned to show the inconsistency of the third palatalization.

a) Suffix *-ĭk-*, counterpart of Li *-ìk(is)*, e.g. *jaunìkis* 'bridegroom', OPr *maldenikis* 'baby'. The velar *k* in this suffix used to derive subst from adj, verbs and other subst as well as to form diminutives, generally followed the rule of the third palatalization. Historically it is attested as *-ьc-*, e.g. in masc, OCS *junьcь* 'youth', from adj *junъ* 'young', *kupьcь* 'merchant', from verb *kupiti* 'buy', *korьcь* 'bushel' (from subst *kora* 'bark'), *odrьcь* 'small stand' (dim of *odrъ* 'bed'); also with the ending *-a*: *sěčьca* 'executioner'. In the modern Sl languages there are exceptions. Words of the type R *kružók* (dim of *krug* 'circle'), Cz *růžek* (dim of *růh* 'horn'), SC *potóčak* (dim from *pòtok* 'brook'), etc., seemingly point to the suffix *-ĭk-* as suggested by the presence of a hushing consonant instead of a velar at the end of the root. It is striking however that in those Sl languages which distinguish reflexes of *ь* (< *ĭ*) and *ъ* (< *ŭ*) the *-ik*-suffix (not changed into *-ic-*) never occurs after hard stems, except those ending in velars. Otherwise in such cases hard stems have the continuation of original *-ŭk-*, e.g. R *domók*, dim of *dom* 'house', not *⁺domëk*, P *domek*, not *⁺domiek*. Thus it is to be assumed that in subst with stems ending in a velar the original suffix also was *-ŭk-*, in which naturally the third palatalization did not take place. After the first palatalization of velars, however, the alternation of velars with hushing consonants became so typical of diminutives that it was transferred into these subst as well. These morphologically conditioned forms are of a later date than the third palatalization. It is probably no mere chance that they are still unknown in OCS. The fact that they occur in most Sl languages of a later period only shows the strength of the morphological tendency to introduce the alternation of velars with hushing consonants in diminutives.

In fem and neut both forms, with *-c-* and *-k-*, are represented copiously. Unlike masc the *-k*-forms in fem and neut are not limited to stems ending in a velar.

[2] The third palatalization of velars is also allegedly found after *ĭr*: OCS *zrьcalo* 'mirror', P *zwierciadło* (the P form is not typical because it underwent blending with *wiercieć* 'turn'), SC *zȑcalo*, M *ʒrcala* 'glasses', Bg *zə́rcala* vs. R *zérkalo* 'mirror', U *dzérkalo*, Cz *zrcadlo* ~ *zrkadlo*, Sn *zrcálo* ~ *zrkálo* based on (OCS) *zьrěti* 'look';

see also OCS *trьʒati* 'tear', *mrьcati* 'darken', R *dërgat'* 'pull', SChSl *izvrъʒati* 'eject'.

These cases of palatalization after *ĭr*, however, are motivated morphologically and not phonetically. They are limited to impf verbs and generalize alternations of velars interpreted as a mark of this morphological category (See footnote 1 on *navycati*). The only subst in the group, OCS *zrьcalo*, is derived from the verb **zrьcati* (Cf. R *so-zercát'* 'contemplate'). All other subst were never affected by the third palatalization, e.g. OCS *vrьxъ* 'top'; cf. after *ьl*, *vlьkъ*. Palatalization through *r* (or *l*) would be conceivable only if *r* was palatalized; yet there is no single instance of *r* marked as palatalized in those cases in any OCS manuscript. Thus the third palatalization operated solely after *ĭ* and **į*, not after *ĭr* or *ĭl*.

Along with R *vnúčka* 'granddaughter' (based on *vnuk* 'grandson'), P *rączka* (dim of *ręka* 'hand'), Cz *Češka* (fem to *Čech* 'Czech') there are numerous forms of the type U *holívka* (dim of *holová* 'head'), SC *dèvōjka* 'girl', M *klopka* 'ball of yarn'; in neut, e.g. R *očkó* 'pip' and *drevkó* 'staff', Cz *očko* 'bud' and *dřívko* 'splinter'. However, *c* occurs regulary in the oldest forms, in which the loss of the nuance of diminutivity as well as their CS character bear witness to their antiquity. Such are, e.g. OCS *ovьca* 'sheep', *srьdьce* 'heart', *slъnьce* 'sun', etc. It may be safely assumed that originally the *-ik*-suffix consistently changed its *k* into *c*; later, though still at an early date, it became confused with the suffix *-ŭk-*.

The seemingly chaotic distribution of *-ka* (*-ko*) and *-ca* (*-ce*) forms in the Mo Sl languages does not reflect the original situation. In its most ancient form the suffix occurred as *-k-* alone; the vowel preceding this *k* in each case was taken from the nominal stem. This principle must first have become obscured by accretion of suffixes; the confusion was enhanced by the incipient coalescence of various nominal stems; later, with the loss of ъ and ь, any motivation in the distribution of the original *-ĭk-* and *-ŭk-* suffixes was lost. The suffix of ChSl *golǫbica* 'pigeon (female)' had been motivated by the appurtenance of *golǫbь* 'pigeon (male)' to *i*-stems. Cz *holubice*, Bg *gəlәbica* still are used, but are no longer motivated. R *golúbka* shifted to another suffix precisely because the use of *-ica* lost its motivation.

Thus, inconsistencies in the distribution of *k* and *c* in the suffix *-ĭk-* are irrelevant for the understanding of the third palatalization of velars.

b) Suffix *-īk-*, counterpart of OPr *-inīk-* (e.g. *laukinikis* 'vassal') and Li *-ykas* (e.g., *dalỹkas* 'thing'; *-nykas* is typical of East and High Li, otherwise it is mostly replaced by *-ninkas*). This suffix was widely used in Sl with masc and fem subst. The distribution of *k* and *c*-forms is largely according to gender: masc have *k*, fem *c*, and this is the situation even in the earliest OCS texts, e.g. *grěšьnikъ* : *grěšьnica* 'sinner', *ispovědьnikъ* : *ispovědьnica* 'confessor', also in words which do not denote persons, e.g. OCS *kašica* 'porridge' (dim), *pъtica* 'bird'. OCS has only two words in *-ik-* before *-a*: *bližika* 'neighbor' and *ǫžika* 'relative'. Both, significantly are not fem in gender and their *-ik-* goes back to *-ūk-* (See section 10). Other forms in *-ika* are innovations of individual Sl languages. E.g. R introduced *-(n)ika* for names of berries: *zemljaníka* 'wild strawberries', *klubníka* 'strawberries', *černíka* 'bilberry', etc. This innovation did not reach even the adjacent Br with its *suníca* 'wild strawberries', *čarníca* 'bilberry', and U with its *sunýci* 'wild strawberries', *polunýci* 'strawberries', *černýci* 'bilberry'. The suffix is also found in pron forms of all genders: OCS *jelikъ* 'so many', *tolikъ* 'so big', *kolikъ* 'how big', *selikъ* 'so big', from which it was transferred to an adj denoting the cognate notion of size: OCS *velikъ* 'big' (instead of older *velii*). All these forms defy the rules of the third palatalization.

On the other hand, there are a few masc in *-ic(ь)*: OCS *korab(lj)icь* 'small ship', RChSl *agnicь* 'lamb', SChSl *gvozdicь* 'nail' (dim), SC *kȍnjīc* 'nag', P dial (Kujawy, Przasnysz, Cracow, etc) *palic* 'finger', possibly U *Hryc*', dim from truncated 'Gregory'. The tendency to associate *-c-* with fem was so strong however that SChSl *kamenicь* 'rock' (dim) in Mo SC became *kamènica*, fem, although in general dim belong to the same gender as the underlying words.

c) Suffix *-īx-*. This suffix is attested for masc in OCS *ženixъ* 'bridegroom' (used also in R, Br, U, P, US, Sk, Cz, and Sn); otherwise this suffix is rare in masc: Sn *omẹ̑tih* 'duster', perhaps Cz *živočich* 'being'. In ESl the suffix is often used in fem subst derived from masc, e.g. R *tkač* : *tkačixa* 'weaver', Br *tkačýxa*, U substandard to denote wives: *Kurýlyxa* 'wife of *Kurýlo*'. While this may be an innovation *ženixъ* must be CS and needs an explanation.

d) Suffix *-ęg(a)*. This suffix is supposed to be found in subst of common gender denoting persons, e.g. R *brodjága* 'tramp', Br *badzjáha*, U *dobrjáha* 'good soul', P *włoczęga* 'vagrant'. It is usually compared with the Balt adj suffix *-ingas* as in Li *šlovìngas* 'famous', Le *slavîgs*, etc. In this case the expected form in Sl should

have undergone the third palatalization. There is no trace of the latter. The chronology and geography of the suffix belie its supposed CS form with *ę*. The suffix is not attested in OCS texts. Furthermore it occurs in the same *-aga* form as in ESl in those Sl languages in which *ę* yielded *e*: SC *mùtljaga* 'gossip', also *sovùljaga* 'owl' (augm); Bg *momčága* 'boy', *junačága* 'good fellow', etc. Thus there is no *-ęga* behind ESl subst in *-aga* and none of the prerequisites for the third palatalization of velars. As to P *włoczęga*, it may have a secondary nasalization, which often occurs in affective vocabulary. CS *-ęg-* is an imaginary suffix in most instances.

Thus two suffixes containing a velar have bearing on the understanding of deviations from the rules of the third palatalization: *-ĭk-* and *-ĭx-*.

5. Approaches toward explaining the irregularities of the third palatalization. The numerous deviations from the general rule of the third palatalization of velars demand an explanation. Disregarding minor differences in detail, the various opinions advanced on the subject may be boiled down to four approaches: the stress theory, the *j*-theory, the monophthong vs. diphthong theory, and the next-sound theory.

The advocates of the stress theory (e.g. Baudouin de Courtenay, Troubetzkoy) aver that the third palatalization took place only before a stressed vowel or, in a broader formulation, only after unstressed *ĭ* and **i̯*. This would explain the difference between *líkъ* and *licé*, both 'face', and some other cases, but would fail in others, such as SC *dvîze* 'two-year-old lamb'; and it certainly does not explain doublets in the same word like Cz *steze* vs. R *stegá* 'path', etc. Articulatorily, one could hardly expect progressive palatalization to have been hampered by the stress on the front vowel which caused the change. The opposite tendency would be more plausible.

The *j*-theory (Miklosich, Brugmann, Mikkola, Ekblom, Knutsson, *et al.*) takes its departure from the observation that in suffixes Sl has palatalization mostly when Balt has *i* or *e* after the suffixes, but not when the suffix is followed in Balt by *a*, e.g. SC *dvîze* – Li *dveigỹs*, gen *dveĩgio*; R *mig* 'moment' – Li *miẽgas* 'sleep', Le *mìegs*. It is contended that forms with palatalization had *j* after the velar and that the palatalization in Sl was due to the double action of the preceding front vowel and the following *j*. This approach is vulnerable from several points of view. The correspondences with Balt are often deficient. E.g. ChSl *šьvьcь* 'tailor' parallels Li *siuvìkis*, gen *-io* 'tailor', OPr *schuwikis*; but Li also has *siuvìkas*, gen *-o*, while no ⁺*šьvьkъ* is found in Sl. The distribution of Balt variants with or without *j* is motivated morphologically and in many cases does not warrant the presence or absence of *j* in the IE forms of the word. The *j*-theory cannot explain why in other cases *k* + *j* yielded *č* in CS (and likewise *g* + *j* > *ǯ*, *x* + *j* > *š*. See 14,4). If one applies this theory to account for the *c* in OCS *otьcь* 'father' then in order to explain the *č* in the voc *otьče*, one is forced to contend that *j* was dropped before front vowels. Articulatorily, there is nothing to explain how *k*, *g*, *x* + *j* could have resulted in hushing consonants after all vowels but *i*, while yielding hissing consonants after *i*. The opposite would seem more plausible.

It has been suggested, e.g. by Meillet and Vaillant that the origin of *i* from IE **ī* or **ei* was crucial for the third palatalization. The diphthong according to

this view did not produce palatalization. The examples to support this standpoint are OCS *tixъ* 'silent' (Cf. Li *teisùs*' just'), *lixъ* 'excessive' (Gr λείψανον 'remainder'). R *mig* 'moment' (OPr *meicte* 'sleep'). Yet there are instances of palatalization after *i* from *ei*, as in the above cited SC *dvîze*; the theory also fails to explain doublets of the type *likъ* : *lice* 'face'. By its very nature it cannot shed any light on doublets and inconsistencies after *ĭ* and **į*. Finally, it does not take into account chronology. The third palatalization occurred after the formation of the nasal vowels, which arose after the monophthongization of *i*-diphthongs. Hence it is impossible to assume that any difference between *ī* from **ī* and *ī* from **ei* was maintained at the time of the third palatalization.

The next-sound theory makes the third palatalization dependent upon the sound which followed the velar. In one respect it is generally accepted: the third palatalization never took place before a consonant: **mĭglₒā* (ChSl *mьgla* 'haze') had no change *g* > *ʒ*; the difference between the consonants in OCS *dvizati* 'move', *klicati* 'shout', SC *nĭcati* 'sprout' vs. *dvignǫti*, (*vъz*)*kliknǫti*, (*vъz*)-*niknǫti* can be accounted for by the presence of *n* after the velar in the second group (See section 4 for OCS *dręxlъ* as opposed to *dręselъ*). Opinion is divided as to the role played by following vowels. The best founded by both factual data and articulatory considerations is the view that following *ŭ* (i.e. OCS *ъ*, *y*) precluded palatalization of preceding velars (Belić, Lehr-Spławiński): but attempts were also made to expand the list to include also *o*, *ǫ* and u_2 (Šaxmatov). The addition of *o* and *ǫ* is unnecessary. It is at variance with the phonetic system of the time: the distinction between *o* and *a* is of later date; in the period under consideration there existed only *ₒa*, long or short.

The view that *ŭ* (there is no evidence that u_2 could have exerted the same influence) prevented the third palatalization of velars is justifiable articulatorily and raises no historical or chronological difficulties. It accounts for the differences in the treatment of some suffixes in fem. with its *-c-* (before *ₒā*) and in masc with its *-k-* (before *ŭ* : OCS *grěšьnica* vs. *grěšьnikъ*): for the preservation of *x* in *ženixъ*, *tixъ*, *lixъ* as well as of *k* in *likъ* as opposed to *lice* and in the pronominal suffix *-ik*(*ъ*) (*kolikъ*, etc.); for the preservation of velars before the suffix *-*ūnjī* (OCS *-ynji*, cf. *lьgynji* 'releif'): for the preservation of velars in OCS *verigy* 'fetters' and *kъnigy* 'letters; book', both words being used originally in pl. i.e. wiht the ending *-ū* (of whatever origin). And yet this view cannot explain all the deviations from the rule of the third palatalization. Two main categories which remain to be clarified are: (1) masc which had their velar changed although it was followed by *-ŭ* (OCS *-ъ*): type OCS *junьcь* 'youth', *otьcь* 'father', *vьsь* 'all' < **ju₂nĭkŭ*, **ŭtĭkĭ*, **vĭxŭ*; and (2) doublets in those words which did not have *ŭ* after velars, as cited in section 4, like OCS *stьʒa* : R *stegá*, Sn *jélša* : R *ol'xa*, etc.

6. Summary. The general formula of conditions under which the third palatalization took place may be presented as follows:

In the third palatalization the velars *k*, *g*, *x* changed into *c*, *ʒ* (> *z*), *s'*/*ś* after an *i*-type vowel (*ĭ*, *ī*, **į*) unless followed by a consonant or an *u*-type vowel

($\breve{u}$, $\bar{u}$). Yet, as also shown above, even with the qualifications included the formula cannot encompass all the deviations. It appears that no other sound change in late CS had so high a percentage of deviations as the third palatalization.

There may be a general reason for this. The third palatalization basically was an excessive sound change. Palatalizations by and large were links in a chain of modifications toward intrasyllabic harmony. The third palatalization transgressed the syllable boundary. It happens occasionally that certain tendencies in sound developments spread beyond what may be called their "logical limits", i.e. beyond the limits which are justified and motivated by the given system of the language. These tendencies develop such a momentum that they begin violating the very principle out of which they grew. Having met a resistance from the system of the language, they soon recede and lose one position after another, although seldom does a language succeed in eliminating all traces of the excessive mutation.

These theoretical considerations apply well to the third palatalization, which may be labeled not only transgressive palatalization or progressive palatalization but also excessive palatalization, each desingation emphasizing a feature which opposes it to the first and second palatalizations. It is likely that these general considerations can be supplemented and partly supported by analyzing the geographical distribution of the data. True, one cannot reconstruct in detail the dialects of the time. Many regroupings have taken place since. And yet by that time all the core areas were settled by the ancestors of the present day Sl peoples so that it is not impossible to discern in their relationships certain traces of the relationships prevailing at the time of the third palatalization.

If the data cited in section 4, twenty-three words which are treated differently in the Mo Sl languages, are scrutinized from a linguo-geographical point of view, one immediately discovers certain areas of stronger concentration of forms which underwent the third palatalization and other areas with minimal concentration. The percentage of words which followed the third palatalization in relation to all the words extant in the given language (within the list) is shown in the following table:[3]

OCS	94%
SC	75
Cz	63
R	62
Sn	60
P	53
Sk	50
M, Bg	40
Pb	33

[3] Some words in the list have been lost in some languages. In some languages the total number suggested is probably smaller than it really is because of lack of evidence (Pb) or because of so far insufficient recording (M, partly So). Still the ratio cannot be denied its significance. Each word was counted as 1. If doublets are used in the same language each of them was counted as ½.

U	20
Br	19
US	14
LS	12

An immediate remark must be made concerning R. The count is based on standard R, which as is well known, abounds in borrowings from ChSl. If one excludes such words as *stezjá*, *mýšca*, *pól'za*, *(o)sjazát'*, *brjacát'*, the percentage will fall from 62 to 50% or less. On the other hand, the figure for M and Bg is lower than it originally was. Because of the radical changes in the system of conjugation these two languages have lost many verbal forms with the original reflexes of the third palatalization.

With these two qualifications, it becomes clear that the geographic center of the third palatalization was among the SW Sl tribes: the area of present-day SC, M, Bg, Sn, and Cz. The high saturation of OCS with palatalized forms reflects the habits of this area. Sk and P obviously were reached by the innovation spreading from the SW, but were affected much less. Finally, the NW (So and Pb) and NE (Br, U, R) were reached last and affected rather insignificantly. In respect to the ESl area it can be assumed, on the basis of what is known from old texts and/or dialects, that the least affected were the extreme northern and possibly eastern tribes. It is hardly accidental that the forms of the pron *vьsь* with unchanged *x* are found in the texts of Novgorod as late as the twelfth – thirteenth century. It is also remarkable that the word *otьcь* represented everywhere in the Sl languages with *c* (OCS *otьcь*, R, Bg *otéc*, Br *ajcéc*, U *otéc'*, P *ojciec*, LS *wóšc*, US *wótc*, Sk, Cz, M *otec*, SC *òtac*) is recorded as *otik* 'male (of an animal)' in dialects of the Komi Republic and as *otëk* 'father' in those of Rjazan'. For lack of the third palatalization cf. also R *lekálo* 'mold; template' vs. OCS *lęcati* 'catch' (R spelling historically should be *ljakalo*), U *hlek* 'pot' (< *gъlьkъ*), OR *jatvjagъ* 'Yatving' (a Balt tribe) vs. *jatvjazь* in WU (Hyp), etc.

Thus it is obvious that the third palatalization was not exactly a CS development. It was a vital process somewhere in SW, possibly spreading from there only partly as a phonetic change to the areas which were closer to the "epicenter" while to other, more remote areas it never spread as a live process but as the importation of single words affected by the third palatalization. Such could have been the word *otьcь*. It is bookish in a great many Sl languages, in some of them used only for 'priest' (Br, to a great extent U, etc.). It may be assumed that it was brought to some Sl territories along with Christianity and its *c*-forms do not necessarily reflect any phonetic change typical of these areas. As the third palatalization centered in the area of the relatively most civilized and most active Sl tribes it is not surprising that it was imitated by the more remote and more stagnant. But to what extent it was imitated by any particular Sl tribe and how the forces of innovation and of conservatism clashed and compromised in each particular area, can not be discovered today. The student may state only that the very variety and inconsistency in the distribution of palatalized and nonpalatalized forms in

the attested Sl languages reflects not solely morphological levelings but also, indirectly, the original non-CS character of the change.

In light of these considerations it becomes evident that one would try in vain to establish strict rules of the third palatalization on the basis of linguistic criteria alone. History interfered here with linguistics and too many facts have become obliterated in the course of historical events.

7. The third palatalization, coterritorial and adjacent languages. The third palatalization of velars was an expansion of the principle of intrasyllabic harmony to the first consonant of the next syllable. It recalls a phenomenon peculiar to Tu (Alt) languages: the choice of a velar in them may be determined by the preceding vowel. E.g. in Yakut *-q*, *-χ* are used after open vowels, *k* (*k'*) after closed. The adaptation of the following consonant to the preceding vowel is well motivated in the Tu languages by the general principle of vocalic harmony (synharmonism) operating in the word as a whole. This motivation was lacking in CS. In addition, the Tu languages admit closed syllables so that the consonant which follows a vowel may belong to the same syllable. In CS of the time, a language with open syllables, the syllable boundary came after the vowel and the connection of the vowel with the following consonant was rather loose. The appurtenance to the next syllable of the velar undergoing palatalization makes the third palatalization in Sl peculiar and leads one to assume the presence of some external influence along with the internal factors.

The area from which the third palatalization spread is that where the Slavs were in closest contact with Alt speaking peoples: Avars in the case of Cz, Avars and Bulgars on the Balkan peninsula. Sl contacts with Alt speaking peoples could have been an additional factor in promoting the third palatalization.

It is noteworthy that Rm developed the same tendency although it did not have any development of velars parallelling the third palatalization in Sl. Rm is characterized by complete harmony of components within a syllable, all of them "palatal" or all of them "labial", including the final consonant of the syllable (i.e. in closed syllables), e.g. *făt* 'boy' vs. *feți* 'boys' ([fət°, f'ec']). Needless to say, Rm of the time was largely coterritorial with both Sl and Alt.

Le, which shared with Sl the second palatalization of velars, did not undergo any change reminding of the third palatalization. This may be connected with the fact that the Sl dialects adjacent to Le had third palatalization in a very weakened form if at all. It should be remembered that neither they nor Le had any contacts with Alt speaking tribes.

8. Concomitant delabialization of vowels. The fact that the third palatalization did not take place before *ŭ* should have produced mixed nominal paradigms with about half the case forms having palatalization and the other preserving the velar. E.g. ***atiku** 'father' should have had a paradigm of the type:

Nom	${}_{o}$*atiku*	${}_{o}$*aticī*	${}_{o}$*atic*${}_{o}$*ā*
Gen	${}_{o}$*atic*${}_{o}$*ā*	${}_{o}$*atiku*	${}_{o}$*aticu*$_2$
Dat	${}_{o}$*aticu*$_2$	${}_{o}$*atic*${}_{o}$*amu*	${}_{o}$*atic*${}_{o}$*am*${}_{o}$*ā*
Acc	${}_{o}$*atiku*	${}_{o}$*atikū*	
Instr	${}_{o}$*atic*${}_{o}$*ami*	${}_{o}$*atikū*	
Loc	${}_{o}$*atic*${}_{e}$*ā*	${}_{o}$*atic*${}_{e}$*āxu*	
Voc	${}_{o}$*atič*${}_{e}$*a*		

The number of forms with palatalized velars was higher in the neut, where only the gen and instr pl had to preserve the velar intact (**līkŭ*, *līkū*), and in the fem, where it was the gen sg and pl, the nom and the acc pl.

Levelings took place, as was to be expected. In neut and fem they invariably led to the generalization of forms with the palatalized velars; in the masc results were split. Some words restored their velars (e.g. OCS *tixъ*, *lixъ*, most subst with the suffix *-ikъ*); in others the palatalization took the upper hand, as in *otьcь* and other words with the same suffix. The paradigm of this word in OCS was:

Nom	*otьcь*	*otьci*	*otьcě*
Gen	*otьcě*	*otьcь*	*otьcju*
Dat	*otьcju*	*otьcemъ*	*otьcema*
Acc	*otьcь*	*otьcę*	
Instr	*otьcemь*	*otьci*	
Loc	*otьci*	*otьcixъ*	
Voc	*otьče*		

It is a *jo*-stem paradigm, only the voc preserving the ending of the *o*-stems, to which the word originally belonged. That is to say, most of the desinential vowels changed after the generalization of the palatalized consonant: typical *jo*-stem vowels were substituted for the *o*-stem vowels, *ь* for *ъ*, *ě* for *a*, *e* for *o*, *i* for *ĕ*, *ę* or *i* for *y*[4].

The question arises whether these substitutions were motivated morphologically only, or phonetically as well. Some of them coincide strikingly with those which constituted the first delabialization of rounded vowels, to wit *ŭ̆* > *ĭ̆* (OCS *ъ*, *y* being replaced by *ь*, *i* respectively), ${}_{o}$*a* > ${}_{e}$*a* (OCS *o* being replaced by *e*). Evidently at the time of the third palatalization of velars the first delabialization of rounded vowels was still operating, i.e. rounded vowels of the *ŭ̆*, ${}_{o}$*a* type were still not admitted after palatal and palatalized consonants.

One could label this new wave of delabialization the second delabialization, but since it did not differ at all from the first delabialization either in conditions or in outcome and was just a new application of the old sound law to the forms in which the conditions for the delabialization had newly arisen, it is preferable

[4] To be more exact: *ę* for *ų̄* and *ī* for *ū*; for that time one may assume the nasalized character of the vowel in the ending of the acc pl of masc *o*-stems, as well as in the gen sg and the nom-acc pl of *ā*-stems. This accounts for different substitutes in the paradigms with (palatalized) consonants.

to refrain from a new designation. When it is important to single out the later phenomena one may speak of the second wave of the first delabialization.

The situation is different with the substitutions of *i* for *ě* and *ę* for *y* (< *ū* < *ų̄*), which cannot be explained as phonetic changes. The difference between $_{e}\bar{a}$ and *ū* on the one hand and *ī* and *ę* on the other is not that of rounding vs. unrounding in the case of *ī* vs. $_{e}\bar{a}$: and even in the case of *ę* vs. *ū* it is not the only relevant distinction. These substitutions are purely morphological. When the declension of *ₒatici*-type subst became basically identical with the *jo*-stem declension, these two typical vowels of *jo*-stem endings were also adopted in the *ₒatici*-type declension. That this was a morphological substitution and not a phonetic change is confirmed, at least in respect to *i*/*ě* endings, by the fact that *i* was introduced in the nominal paradigm but not in the pronominal. As late as OCS, where the loc sg is *otьci* (like *konji* 'horse' vs. *vlьcě* 'wolf', in the original *o*-stems) and the loc pl is *otьcixъ* (like *konjixъ* vs. *vlьcěxъ*). the pronoun *vьsь* has the instr sg *vьsěmь*. the gen-loc pl *vьsěxъ*, the dat pl *vьsěmъ*, the instr pl *vьsěmi*, like the "hard" type *těmь*. *těxъ*. *těmъ*. *těmi* and unlike the "soft" type *imь*, *ixъ*, *imъ*, *imi*.

Finally, as to *ě* ($_{e}\bar{a}$) replacing $_{o}\bar{a}$. which is not a part of the first delabialization, it probably was a phonetic change but typical only of S and W dialects of the disintegrating CS: Proto-Cz, Proto-M. and Proto-Bg. The area of this change seems to have coincided roughly with the area in which the third palatalization operated in full swing. The coincidence is hardly accidental.

The delabialization of vowels concomitant to the third palatalization of velars was important in that it extended the principle of intrasyllabic harmony to the next syllable as a whole. In a word. say. *$_{o}\bar{a}$||*ji*||*c*$_{e}$*a* (OCS *aice* 'egg') it was not only the second syllable *ji* which had homogeneous sounds (palatal consonant in conjunction with front vowel) but basically also the third syllable. It was a synharmonism of disyllabic groups („disyllabic harmony") in words which originally had a velar at the beginning of the second syllable. As the number of such words (cited in sections 3 and 4) was not great, this step toward word harmony still was a far cry from making CS a language characterized by synharmonism of vowels.

9. Absolute chronology of the third palatalization. Important evidence for the absolute chronology of the third palatalization is provided by the rather numerous Sl words with the suffix *-ing* borrowed from Germ. Most of them in Sl end in *-ęʒь*: SChSl *vitęʒь* 'knight', OP *rzeciądz* 'chain', as cited in section 3, P *mosiądz* 'brass' (< OHG **massing*). probably OCS *kladęʒь* 'well' (< Germ **kalding-*), *pěnęʒь* 'coin' (< OHG *pfenning*). Some are attested also with *-ęgъ* forms. These are rare and occur in later texts: OCS *kъnęʒь* and ChSl (Pogodin's Psalter) *knęgъ* 'prince' (< Germ **kuningaz*). RChSl *userezь* and SChSl *useręgъ* ~ *useręga* 'earring' (< Go **ausihriggs*), OCS *skъlęʒь* and OR *ščьljagъ* (Kiev Chr s.a. 885, 964) 'coin' (< Germ **skillings*). Only forms with *g* are attested for OR *varjagъ* 'Varangian' (ON **váringr*, *væringr*). *kъlbjagъ* 'Nordic union', cf. place-name *Kolbjagi* (Tixvin region) (< ON *kylfingr*).

Although some of these words could have come into Sl from Go most came from OHG (sixth – eleventh centuries); others came from OSw. The forms *varjagъ* and *kъlbjagъ* are usually considered as later acquisitions, penetrating (E)Sl after the third palatalization ceased to operate. But the preservation of *g* in these words may have been due to the fact that they were borrowed first in the NR (Novgorod) area, where the third palatalization was in general resisted. A comparison with the R and Br place-name *Buregi* ~ *Burezi* ~ *Burjaz'*, which goes back to an ON prototype (ON **Bûring* 'small house', cf. Sw place-name *Byringe*), is illuminating. The name occurs 6 × as *Buregi* in the Novgorod area, while farther south it is attested with *z*: *Burezi* ~ *Burizy* in the Smolensk area and *Burjaz'* in SBr (near Mozyr). In any case all these words, with or without the palatalization, entered (E)Sl before the tenth century, as shown by the denasalization of *ę* into *'a*.

Of particular importance for the chronology of the third palatalization is the word *pěnęʒь*. In Germ it originally sounded **panning* (going back to La *pannus* 'piece of fabric') and denoted Frankish denars whose coinage started ca. 650. In German the word underwent an *umlaut a > e*, dated by the late seventh century. It was in this form that the word was borrowed by the Slavs, in all probability at the time of Charlemagne (768–814). This means that the third palatalization operated in the late eighth – early ninth century, which also is the time of Varangian activity in the Sl lands. As the early borrowings from them also follow the trend of the third palatalization, it obviously was in full swing at that time.

Other data, concerning northern, western and southern outskirts of the Sl area, lead to the same conclusions. Fi *katitsa* (*katiska*) 'fish weir' borrowed from Sl **kₒătĭčĭ* (R *kotéc*) shows by its *a* for later *o*, and *i* for *ь*, that the third palatalization preceded the changes *ₒa > o* and *ĭ > ь*. On the other hand, the P city-name *Grudziądz* from OPr **Grūdīngas* shows that the third palatalization was still operating after CS *ū* yielded *y*. The earliest records of river-names of Sl origin in Austria often distinguished between *k* and *k(c)h*. The latter spellings are supposed to denote Sl *k'*, i.e. a palatalized *k* which had not yet reached the stage of *c*, e.g. *Sabini(k)cha* (998) < **Žabĭnīk(')ₒă*, river in Upper Austria (now *Sarning-bach*) as compared to *Saifnitz* (1204), a river in Carinthia, of the same origin. These data comprise approximately 80 river-names in Styria, Carinthia, Lower and Upper Austria. La *Longaticum* became Sn *Logatec* (G *Loitsch*), a river south of Ljubljana. Not much weight is to be attached to the dates of recording, but the very changes of *k* to *k'* and then *c* show that the third palatalization of velars in this area occurred after the Sl settlement there, i.e. after the mid sixth century.

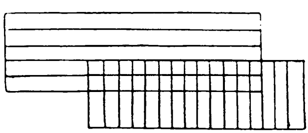
Sl place-names in Greece also show the three stages of the development: the oldest have *k*, as e.g. 'Αβαρῖκος (Acarnania), < Sl **ₒăvₒărĭkŭ* (later to become **Javorьcь*); other names, a more numerous group, still have *k* but followed by *ι* not justified by the etymology of the word. This marks the stage of *k'*, as e.g. Γαρδίκι (Messenia, Arcadia, Phtiotis) < **Gₒardĭkŭ* (later to become **Gradьcь*), Γαρδενίκια (Laconia) < **Gₒardₒănīkₒă* (later to become **Gradenica*). Finally,

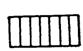
there are many names with *c*, of later origin, but not very late as some of them occur in Southern Greece where the Slavs were soon submerged: 'Αβαρινίτσα (Messenia) (Sl *Javorьnica*), Γαρδίτσα (Triphylia, Peloponnesus), 'Αγλαβίτσα (Phocis) (Sl **Oglavica*). These data indicate that the third palatalization occurred no earlier than the late sixth century but more likely in the seventh–eighth century.

Thus the third palatalization of velars started operating approximately in the seventh century and was a law of the Sl sound system (dialectally) till about the ninth century. This means that it overlapped with the second palatalization, the chronological limits of which supposedly were the fifth to the eighth century (See 21,7).

One word apparently does not conform to this dating: OCS *grьkъ* 'Greek' which should have become *+grьcь* if taken into Sl before the third palatalization. Since the word must have been introduced into Sl no later than the time of the first Sl-Gr contacts, this would seem to imply that the third palatalization should have ceased operating in the seventh century. The word is puzzling in some other respects as well. Based on a Gr tribal name in Epirus, γραικός, it came to the Slavs through Balkan La *graecus*, with *ae* pronounced as open *e*. This should have been reflected in Sl as *ě*, not as *e* or *ь*. In addition, the word does not have a single CS form: R *grek*, U *hrek*, Cz *řek* go back to **grₑăkŭ*; Sn *grk*, SC *gȑk*, M *grk*, Bg *gərk* developped from **grĭkŭ* (*from *gr̥k-* ?). Obviously there were two separate borrowings, one SSl and another NSl[5]. SSl *ĭ* could have developed only from La unstressed *e*. This was the case in the adj, OCS *grьčьskъ*. There could also have existed a singulative form with unstressed root **grĭčinŭ*, not attested in OCS but known in MBg. In pl the word had the form *grьci*, with *c* from the second palatalization, and the form *grьkъ*, sg, as often in the names of peoples was a back derivation from the pl, based on the typical scheme: pl *vlьci* to sg *vlьkъ*, etc., and correspondingly sg *grьkъ* to the pl *grьci*. If so, the absence of *c* in the word is irrelevant for the chronology of the third palatalization.

10. Relative chronology of the third palatalization. The absolute chronology of the third palatalization places its beginning at the peak of the second palatalization and its end after the extinction of the latter:



 – second palatalization;  – third palatalization.

[5] It is not impossible that the NSl form was borrowed from SSl at the time of the change of (strong) *ь* into *e* in the south. In this case it was an intra-Sl migratory word. P *Grek*, with palatalization of *r* missing, hardly goes back to CS at all. It is rather a learned loan word of a later time. Did the originally borrowed word in its earlier form never reach the Proto-P tribes?

Yet there are some indications of relative chronology which led quite a few scholars (e.g. Il'inskij, Vondrák, Trubetzkoy, Ekblom, Lehr-Spławiński, Kořínek, Pedersen, Mareš) to dispute this order of palatalization (introduced or supported by Baudouin de Courtenay, Belić, van Wijk, Stender-Petersen, Seliščev, Havránek *et.al.*) and to place the transgressive palatalization of velars some time between the two regressive palatalizations, i.e. as if it were the second palatalization of velars.

Three arguments are cited in favor of this view: a) the paradigm of words of the type OCS *otьcь* (See section 8); b) the lack of palatalization after what is supposed to be the suffix *-ŭk-* preceded by *j*; and c) the word (OCS) *igo*.

a) The paradigm of words of the type OCS *otьcь*, before the third palatalization *$_o$*atiku*, as shown in section 8, does not differ in the oldest Sl records from the paradigm of the regular *jo*-stems (type OCS *konjь*), except in the voc sg *otьče* which follows the pattern of the *o*-stems and alone reveals that prior to the third palatalization the word belonged to that type of declension. Particularly typical are the loc sg and the loc pl, whose endings originally had *ě* from **oi*. In the loc sg the CS form before the second and the third palatalizations was *$_o$*atik*$_o$*ai*. If the third palatalization came first, *k* would have changed into *c* after *ĭ*: *$_o$*atic*$_o$*ai*. After the palatalized consonant *oi* would have changed into *ei*; in the ensuing monophthongization *ei* ($_e$*ai*) would have yielded *ī*, which gives the actual form *otьci*. Schematically:

(1) *$_o$*atik*$_o$*ai*
(2) *$_o$*atic'*$_o$*ai* (Third palatalization)
(3) *$_o$*atic'*$_e$*ai* (First delabialization)
(4) *$_o$*aticī* (> OCS *otьci*) (Monophthongization of *i*-diphthongs)

This would mean that the third palatalization occurred before the first delabialization and the monophthongization of *i*-diphthongs. As for the second palatalization, which was basically caused by monophthongization of $_o$*ai* into *ě*, it could have developed only after this monophthongization, that is to say in the above scheme it would be allotted fifth place.

The refutation of this scheme comes from a comparison of the paradigm of the type *otьcь* with that of the pron (OCS) *vьsь* (CS **vixu*). If the same procedure is applied to, say, the instr sg of this pron, it would yield the following results:

(1) **vix*$_o$*aimi*
(2) **vis'*$_o$*aimi* (Third palatalization)
(3) **vis'*$_e$*aimi* (First delabialization)
(4) **vis'īmi* (Monophthongization of *i*-diphthongs)
(5) OCS $^+$*vьsimь*.

But an OCS form $^+$*vьsimь* does not exist. OCS had *vьsěmь*, with *ě* typical of the "hard" type. It is evident then that one cannot explain both paradigms (type *otьcь* and type *vьsь*) phonetically. If one of them is explainable phonetically, the other should be accounted for morphologically. It is easy to see that it is the paradigm of *vьsь* which does not allow a morphological explanation: it

preserves basically its original "hard" type of declension and directly continues the original pattern, which is possible only under the condition that the second palatalization preceded the third:

(1) **vix*$_{\circ}$*aimi*
(2) **vixěmi* (Monophthongization of *i*-diphthongs)
(3) **visěmi* (= OCS *vьsěmь*) (Second palatalization).

On the contrary, the paradigm of the *otьcь* type was heavily influenced by the *jo*-stems, indeed transferred into that type. Phonetically conditioned loc sg *$_{\circ}$*aticě* became *$_{\circ}$*aticī* under the influence of **k*$_{\circ}$*an'ī*, etc. Customarily pronouns are more conservative in their declension. In addition, the *vьsь*-type declension had a large group of cases with *ě* in the endings, while the *otьcь* type had it only in two cases of relatively infrequent use, the loc sg and pl.

b) It is said that *k* remains unchanged in the suffix -*ĭk*- arisen from -*j* + *ŭk*-, as in R *dúška* 'dear', originally based on *dušá* 'soul': **d*$_{\circ}$*auxj* + *uk* + $_{\circ}$*ā*. This would imply that the third palatalzation developed prior to the transformation of -*ŭk*- into -*ĭk*-, i.e. before the first delabialization. Since it is obvious that the second palatalization occurred after the first delabialization the conclusion is that the third palatalization preceded the second palatalization. Schematically:

(1) **d*$_{\circ}$*auxj -uk-*$_{\circ}$*ā*
(2) **d*$_{\circ}$*auš-uk-*$_{\circ}$*ā* (Simplification of *j*-clusters) (Third palatalization)
(3) **d*$_{\circ}$*auš-ik-*$_{\circ}$*ā* (First delabialization) (> R *dúška*)

If we disregard the fact that forms of this type are as a rule of a later date and, as suggested in section 4, arose from transference of velar alternations with hushing consonants to a position which did not require any consonantal alternations, the reconstruction of the developmental stages is correct, but not the conclusion drawn from it. The fallacy consists of a summary concept of the first delabialization. As shown in 18,4, it was not a single change. The delabialization of $_{\circ}$*a* preceded that of *ŭ*. The second palatalization depended only on the former. Therefore, facts concerning the rise of *ĭ* from *ŭ* do not stand in any direct relation with the second palatalization of velars and cannot show its precedence or subsequence in relation to the third palatalization. They only show that both palatalizations are to be placed between the delabializations of $_{\circ}$*a* and the monophthongization of *i*-diphthongs, on the one hand, and the delabialization of *ŭ* on the other. Indirectly, they confirm the assumption that the two palatalizations were very close in time, but at that point the argument stops short.

c) In regard of the word *igo* 'yoke' (OCS), the argument goes in the same way: *igo* comes from **jug*$_{\circ}$*a* through a stage of **jig*$_{\circ}$*a* (La *iŭgum*, etc.). If *g* did not change into *ʒ* it means that the third palatalization took place before the change *ŭ* > *ĭ*, i.e. prior to the first delabialization. Again this argument is correct but should be more specific: it is not the first delabialization as a whole which is at stake but only its later part: delabialization of *ŭ*. This also applies to OCS *ǫžika, bližika* as discussed in section 4.

12. Repercussion of the third palatalization in vowel alternations: third zero grade. Zero grade in vowel alternations as taken over by CS from IE was # for *e* : *o* series, S̥ for diphthongs (See 6,1). Later CS transformed its syllabic sonants into *ĭ*S ~ *ŭ*S groups, and these *ĭ*, *ŭ* having become the new form of zero grade were transferred, by analogy, to some other positions (See 5,8 and 9). The two forms of zero grade could occur in the same morpheme, e.g. **$t_e$ar-* : **tr-* : **tĭr-* (OCS *trěti* 'rub' : *trava* 'grass' : *tьrǫ* 'rub', 1 sg).

At the time of the second and third palatalizations of velars Sl developed, on a much narrower scale, a new zero grade. Externally and functionally it did not differ from the second zero grade, i.e. it was expressed by *ĭ* and was in alternation with *e* : *o*. But the second zero grade basically occurred in the same positions as the first and was but a new form of the latter, while the third zero grade arose in certain specific morphological categories as a substitute for *e*, the full-grade vowel. These categories were the imp and to some extent the pres of first class suffixless verbs with stems ending in a velar, e.g. OCS *rešti* (< **$r_e$ak-*) 'say' but imp *rьci*, Cz *říci* but imp (arch) *rci*, pres *-řku* (in the expressions *jářku*, *neřku-li*, otherwise now *řeknu*). Cf. also in OCS, in imp only *tekǫ*, 1 sg : *tьci*, imp 'run', *pekǫ* : *pьci* 'bake' and. fluctuating *žegǫ* ~ *žьgǫ* : *žьʒi* 'burn', etc.

All these forms are a Sl innovation. To understand it one must remember that Sl first class verbs which had *e* alternating with *ĭ* (*ь*) in their root (as the new, i.e. second zero grade) theoretically could have had – and actually did have – two competing forms of their lengthened grade: with *ē* and with *ī*. The form with *ē* was based on *e*-forms, that with *ī* on the *ĭ*-form of the root, e.g. (OCS) *berǫ* : *bьrati* 'take' formed *-běrati* alongside *-birati*. This fluctuation spread to some other verbs with the root vowel *e*, so that along with phonetically legitimate *pogrěbati* 'bury' based on *grebǫ* 'dig' (1 sg), where *e* does not alternate with *ь*, a form *pogribati* is attested in OCS and elsewhere (See 5, 10). Correspondingly, e.g. *rekǫ*, *rešti* 'say' acquired two forms, too: OCS *prěrěkati* ~ *prěricati* 'argue'. When the latter, though phonetically unjustified form came into being, it automatically required a counterpart (in the non-iterative verb) with zero grade, i.e. with *ĭ* in CS, *ь* in OCS, and so the form *rьci* was generated. The newest, third, zero grade arose, thus, as a specific back formation from and on the basis of the lengthened grade. Schematically:

rekǫ : *-rěkati* ~ *-ricati*
| ↕ ↓
└──→ **reci* *rьci*.

The third zero grade was limited to verbs with *e* as root vowel and a velar as the final stem consonant. The first condition is understandable: zero grade was in direct opposition with full grade and through it with the lengthened grade. Verbs which had a long-grade vowel in the pres stem did not develop the third zero grade, e.g. *sěkǫ* – imp *sěci* 'cut', nor did those with the second zero grade undergo any change, e.g. OCS *tlьkǫ* – *tlьci* 'knock'. The second condition, i.e. presence of a final velar in the stem, seems irrelevant at first glance. Vocalic alternations in Sl never depended on consonantal environment. There is however one detail which sheds light on this connection in the particular case of the third zero grade. The third zero grade first appeared in the imp and from there spread to pres. In *pekǫ*, *tekǫ* it never succeeded in crowding out *e* in the pres. The imp had one common feature with iterative verbs having lengthened grade, and this was alternation of velars with *c*, *ʒ*, *s'*/*ś* due to the second and third palatalizations. The substitution of a dental affricate or spirant for a velar evidently established stronger ties between the two forms than between iterative forms and, say, pres of non-iterative verbs. This was why the innovation comprised the stems ending in velars but did not spread to other stems. The third zero grade became typical of roots with the vowel *e* and a consonant participating in the second and third palatalizations.

This formulation accounts for the lack of the third zero grade not only in verbs

of the type (OCS) *nesǫ – nesti* 'carry', *vedǫ – vesti* which formed their iteratives on the basis of their stems with *o*: *nositi, voditi* : *-našati, -važdati*, but also in verbs of the type *grebǫ – greti* : *-grěbati* ~ *-gribati* or *metǫ – mesti* : *-mětati* 'sweep'. The verbs of the first type did not have any +*nьsi*, +*vьdi* imp forms because they had no lengthened grade with *ī* in the root. The verbs of the second type did have such iteratives; but these were not linked to the imp any more than to other forms, because neither their imp nor their iterative form had any consonantal alternations. Forms of the type +*grьbi*, +*mьti* never arose.

Logically, the introduction of the third zero grade may be presented in the following stages (which could easily have overlapped in time):

(1) *rekǫ*	**reci*	*-rěkati*	vs. *grebǫ grebi grěbati*		
(2) *rekǫ*	**reci*	*-rěkati* ~ (*-ricati*)			~ (*-gribati*)
(3) *rekǫ*	**reci* ~ *rьci*	(*-rěkati*) ~ *-ricati*			~ *-gribati*
(4) *rekǫ* ~ *rьkǫ*	(**reci*) ~ *rьci*	(*-rěkati*) ~ *-ricati*			~ (*-gribati*)[6]

The rise of the third zero grade, as follows from the above explanation, was close in time to the second and third palatalizations of velars. This means that it belonged to predivisional CS. Its completion took place in the individual Sl languages. To what extent it spread in each of them is difficult to establish because analogy early began its work to eliminate the forms with the third zero grade and to replace them again with full-grade forms. Incompleteness of the change can easily be mistaken for its later suppression and vice versa. In OCS, e. g., the imp have third zero grade while pres forms preserve *e*, as stated, the only breach being *žьgǫ* along with *žegǫ*. R generalized the *e*-grade in *rekí, pekí, tekí* as well as *rekú, pekú, tekú* but # grade in *žgi, žgu*; but forms like OR *rkuči* (e. g. in Pskov Chr) bear witness to the presence of a *rьk-* stem in OR not only in imp but also in the pres. Cz generalized *e*-forms in *péci, téci* while *žíci* (arch) has predominantly # grade forms (*žhu, žzi, žha, žhouc*) and *říci* preserves # in some petrified forms quoted at the beginning of this section. Also OP had *żgę*. Sn generalized # grade in *žьgǫ* even up to the inf stem: *žgáti – žgèm*.

Inconsistency in the distribution, enhanced by analogy, was typical of the phenomenon from the very outset. The third zero grade never became a phonetic law in Sl. It is but a peculiar repercussion of the second and third palatalizations of velars in a sphere which at first glance has nothing to do with these changes of velars. The gap between the two facts was bridged by a morphological factor, the interrelation between the stems of iterative vs. non-iterative verbs.

13. Labialization of *e* before *v*. A transgressive change of a more limited scope and of more ancient date than the third palatalization was the CS change of ₑ*a* into ₒ*a* before *v* if followed by a non-front vowel. The same change took place in It and Ce, but independently of Sl, as well as in Balt. The examples are:

a. Before non-front vowels: OCS *novъ* 'new', R *nóvyj*, Br *nóvy*, U *novýj*, P, LS, US *nowy*, Pb *nüvó* (niwô) 'new moon', Sk, Cz *nový*, Sn *nòv*, SC *nôv*, M, Bg *nov* – OI *návas*, Av *nava-*, Gr νέος, Go *niujis*, Hi *newa-* (but La *novus*, OIr *naue*, Li *naũjas*, Le *nàujš*); if OCS *nevěsta* 'bride', R *nevésta*, Br *njavésta*, U arch *nevista* 'woman', P *niewiasta*, US *njewjesta* 'bride', Sk, M *nevesta*, Cz *nevěsta*, Sn *nevẹ́sta*, SC *nèvesta* 'sister-in-law', Bg *nevésta* 'newly married' has the same root (with the suffix *-ěst-* denoting superlative), meaning originally 'the newest (member

[6] The examples are cited in their OCS form. Forms in parentheses presumably were of lower frequency.

of family)' it shows the difference in the treatment of *ₑa* before non-front and front vowels;

OCS, Sk, Cz *slovo* 'word', R, U *slóvo*, Br *slóva*, P, LS, US *słowo*, Pb *slüvü* (sslywy), Sn *slǫ́vo*, SC *slȍvo* 'letter' – cf. Av *sravah-* 'word', Gr κλέ(ϝ)ος 'fame' (but OIr *clú*, Le *slava* 'rumor'). The word belonged to *s*-stems, whose typical root vocalism was *e* (e.g. OCS *nebo* 'sky', etc.);

OCS *vъdova* 'widow', R, U *vdová*, Br *udavá*, P *wdowa*, LS, US *wudowa*, Sk, Cz *vdova*, Sn *vdôva*, SC *udòva*, M *vdovica*, Bg *vdovíca* – cf. Gr ἠίθεος 'unmarried', OPr *widdewū*.

b. Before front vowels: OCS *devętь* 'nine', R, U *dévjat'*, Br *dzévjac'*, P *dziewięć*, Pb *divąt* (diwangt), LS *źewjeś*, US *dźewjeć*, Sk *devät'*, Cz *devět*, Sn *devêt*, SC *dȅvēt*, M, Bg *dévet* – cf. Li *devynì*, Le *deviņi*, OI, Av *náva*, Gr ἐννέα, La *novem*, Go *niun*. If, as is usually assumed, the root *nev-/nov-* is the same as in OCS *novъ* (meaning the new pair of fours beginning) it is one more illustration of twofold reflexes depending on the quality of the vowel in the next syllable;

OCS *drevlje* 'once', R *drévnij* 'ancient', P *drzewiej* 'before', Cz *dříve*, Sn *drệvi* 'tonight' – cf. Li *drẽvė* 'hollow tree trunk', Le *dreve*, Go *triggws* 'faithful';

R dial (Komi) *névennyj* 'thin', if a cognate of *nav'* 'dead' – cf. Li *nõvyti* 'torture', Le *nâve* 'death', OPr *nowis* 'body', Go *nauþs* 'dead'.

In quite a few words the change *ev* > *ov* split the paradigms, and soon after that levelings took place. Some of them were completed at an early date, before the beginning of writing in Sl. This was the case with *slovo* 'word', whose gen sg should be, in OCS, +*slevese*, dat sg +*slevesi*, etc. with *e* preserved before *v* followed by a front vowel. Nowhere are these forms found. In *u*-stems the nom pl (OCS) *synove* should have been +*syneve* (Cf. Gr βασιλέ(ϝ)ες 'kings'); but *-ov-* has been taken from the gen pl *synovъ* where it was normal before a non-front vowel. This *-ev-* is still retained in R *možževel'nik* 'juniper' whose underlying form was that of *ju*-stems: **mₒazgju-* (The first delabialization could have been at work here as well).

In verbs OCS had *pluti* : *plovǫ* 'sail', *sluti* : *slovǫ* 'be known as', (*na*)*truti* : *-trovǫ* 'feed' with *o* generalized in all positions: *ploveši*, *sloveši*, *-troveši*. But in *rjuti* 'roar' *e* was generalized: *rjevǫ* : *rjeveši*, and only the pres act part is still found in the form *rovy* (along with *rjevy*). Prior to the levelings the paradigms should have been *plovǫ* : **pleveši*, **rovǫ* : *rjeveši*, etc.[7]

The change *ₑav* > *ₒav* occurred after the monopthongization of *u*-diphthongs.

[7] Although the sequences *-ove* and *-ovi* were both admitted in declension, there was even later a tendency in the individual Sl languages to avoid the sequence *ov* + *i* where it was not supported by the paradigm. The dative cases *domovi*, *dolovi* which underwent adverbialization became *domój* 'home', *dolój* 'away' in R (i.e. *v* > *j* before *i*, which then was lost). In So *j* was substituted in general for *v* in the ending of the dat sg: LS *synoju* 'son', *konjoju* 'horse', US *nanej* 'father', *mužej* 'man', etc. In the competition of the forms for 'the Danube', from Go **Dōnawi*, one with *v* based on Germ nom sg (SC *Dȕnav*, Bg *Dúnav*), the other with *j*, based on Germ oblique cases, in particular dat sg *Dōnaujai*, the same tendency possibly facilitated the victory of the second in most cases (R, Br, U *Dunáj*, P, Cz, Sn *Dunaj*).

This is evident from the fact that *eu*-diphthongs are reflected in all positions alike, e.g. OCS *bljudǫ* 'guard', R *brjuxo* 'belly' (before a non-front vowel) in the same way as R *žurít'* 'reprove' (before a front vowel), etc. (For more examples and details see 19,4). Thus, the change ${}_{e}av$ > ${}_{o}av$ could not have been common with Balt. The Sl innovation was as independent from Balt as from La and Ce.

Instances of similar developments are found in Rm. La *levāre* 'lift' became in ORm *luoá* [luwá] (Mo Rm *luá* 'take'), with *e* > *o* before a non-front vowel; Sl (OCS) *nevodъ* 'fishing net' became Rm *năvód*. But in Rm these changes are not specifically conditioned by the presence of *u*/*v* and are a small part of the general trend toward sound harmony in the word. They could have been common with Sl but there is nothing to prove that they actually were.

Hence the chronology of Sl ${}_{e}av$ > ${}_{o}av$ before non-front vowels is determined by two facts: it occurred after the monophthongization of *u*-diphthongs; and it could not have occurred immediately before the time of the oldest Sl manuscripts because in these are found far-reaching levelings which needed a certain amount of time for their implementation. This gives the range from the seventh to the ninth century.

14. Problem of ${}_{e}a$ before *j*. Not a single example of *e* from ${}_{e}a$ (IE and early CS *e*) is found in Sl before *j* beginning the next syllable. Instances like OCS *jeję* 'she' (gen sg), *vьseję* 'all' (gen sg fem) have their *e* from ${}_{o}a$ changed in the course of the first delabialization (Cf. OCS *toję* 'that' in the "hard" declension). In those cases, not at all numerous, when IE evidence points to original *ei̯* + V the group *ьj*/*ij* + V is the only reflex attested:

IE **treies* 'three', as in OI *tráyas*, Gr τρεῖς, Li *trejì* (used with pluralia tantum), Le *treji* but in Sl OCS *trьje*, OR *trie*, OCz *třie*, Sn *trijê*;

verbs of the type OCS (*za*)*viti* 'wrap' : *vьjǫ*, 1 sg, *piti* 'drink' : *pьjǫ* – cf. Li *výti* 'wind' : *vẽja*, 3 sg, OI *váyati* 'weave';

the ending of the nom pl of *i*-stems, OCS *-ьje* (e. g. *pǫtьje* 'roads') – cf. OI *-ayas* (e. g. *pāṇáyaḥ* 'hands'), Gr -εις (e. g. πόλεις 'cities'), La *-ēs* (e. g. *hostēs* 'foreigners');

the ending of the gen pl of *i*-stems, OCS *-ьjь* (spelled usually *-ii*, e. g. *pǫtii*) – cf. Gr -εων (e. g. πόλεων);

IE **kʷei-i̯os* – OCS *čьjь* (spelt *čii*) 'whose';

possibly R *r'jányj* 'zealous', if a cognate of *rínut'* 'rush', cf. Gr. ὀρίνω 'move'.

It is possible to couclude that the change ${}_{e}aj$ + V into *ij* + V was a regular phonetic development, assuming that it stopped operating prior to the first delabialization of vowels. Chronologically it could have been of a fairly ancient date. Two considerations would speak in favor of its antiquity: (1) articulatorily, it is easier to assume that this change occurred prior to the change *e* > ${}_{e}a$; (2) it is also easier to assume that this change developed before the syllable acquired status as the basic phonetic unit in the language, i. e. before the trend toward intrasyllabic harmony. Both considerations point to an early period of CS. The change *e* > *i* before *j* is not a manifestation of word harmony. It is conditioned by the presence of *j* in the next syllable, but originally had nothing to do with the vowel of the next syllable. Only when the first delabialization prohibited rounded vowels after *j* could it be reminiscent of "disyllabic harmony".

Although the phonetic explanation of the facts cited is the simplest, and is perfectly acceptable, it cannot be regarded as fully proved. All the data cited – and there are apparently no other data available – also admit a morphological explana-

tion. They may be characterized in the framework of alternations and morphological doublets:

OCS *trьje* used for masc has *tri* for fem and neut, and Li has *trỹs*, Le *trîs*; zero grade to the series *ei* : *ī* is used in such words as OCS *trь-gubiti* 'triple', etc.;

along with the Li forms *výti* : *vejù* Le has *vît* : *viju*, and the alternation of a long-grade with a zero-grade form is understandable in the relations between the pres and the aor-inf stems of a verb. Cf. the type OCS *zějǫ* : *zьjati* 'yawn', *lějǫ* : *lьjati* 'pour', *směјǫ sę* : *smьjati sę* 'laugh' with zero grade in the inf;

the endings of *i*-stems in the nom and gen pl in non- Sl IE languages along with the forms in **-e̯ies*, **-e̯iōn* are also attested as **-ies*, **-iōn* (e.g. Gr -ιες, -ιων in all the dialects, exc. Attic), and one may consider the Sl endings as having developed from the latter variant;

OCS *čьjь* may have *čь* of the same origin as in *čь-to* 'what', with *-jь* added;

R *r'jányj* may be the same zero grade to *rínut'* as *p'janyj* 'drunk' is to *pit'* (Cf. OI *pyānás* 'drunk').

For more examples of alternation *i* : *ь* see 20, 8.

Because of the ambivalence of the scanty material available there can be no certainty whether the *-ij* + V forms of CS developed from *ej* + V phonetically or morphologically, primarily from alternations. Generally, one is inclined rather to accept the phonetic explanation, for with the morphological approach less uniformity would be expected in the available material.

On *ě* + *j* see 12, 5.

15. Other manifestations of the trend toward word harmony. Vowel harmony within a word never grew strong enough in CS to become a rule determining which vowel was to be used in a certain syllable according to the vowel of the adjacent syllable. But a weak tendency toward vowel harmony seems to have operated in CS for a certain period of time and affected a few isolated words as well as some whole groups.

Only a few instances can be traced to CS as a whole. Loan words were the easiest prey for the tendency. In two of them it reshaped the vowel of the initial syllable according to the type of vowel used in the second syllable:

OCS *dъska* 'board', R *doská*, Br, U *dóška*, P, US *deska*, Sk *doska*, Cz *deska*, Sn *deskà*, SC *dàska*, Bg *dəská* have reflexes of *ŭ*. This loan word from Germ (AS *disc* 'table' going back to La *discus*) had substitution of the back vowel *ŭ* for the expected front vowel *ĭ* conditioned by the presence of a back vowel (*ₒā*) in the next syllable;

R, Br, U *barán* 'ram', P, LS, Sk *baran* probably go back to a pre-IE "European" word preserved in Alb *berr* 'sheep', It dial *bero* 'ram', Gr βάριχοι 'lambs'; but Cz still has *beran*.

Operation of vowel harmony may be assumed also in two native CS words:

OCS *vъdova* 'widow', SC *udòva* – cf. OI *vidhávā*, La *vidua*, Go *widuwō*;

OCS *dvьri* 'door', R *dver'*, Br *dzvéry*, U *dvéri*, P *drzwi*, Cz *dveře* – cf. Li *dùrys*, Le *dùr(v)is*, Gr θύρᾱ, Go *daur*.

In all these cases the vowel of the next syllable determines the vowel of the preceding syllable, a typical case of Sl regressive assimilation[8].

[8] In Tu languages the direction is the opposite. Besides the phonetic factors, in Sl blending of alternation series played a part in the switches of vowels analyzed here. See, e.g. for *dvьri* in 19,9.

The situation is more complicated in R *lebedá* 'goosefoot', P *lebioda*, Cz *lebeda*, Sn *lebéda* as opposed to Br *labadá*, U *lobodá*, P, LS, US *łoboda*, Sk *loboda*, Sn, Bg *lóboda*, SC *lobòda*. The two sets of forms probably go back to **lₑabₒadₒā*, from which either the vowel of the first syllable was adapted to that of the second one or vice versa.

A progressive development took place in words with the suffix -(*t*)*er*-, as in OCS *eterъ* 'some' – cf. OI *an-tar-as* 'inner', La *cē-ter-ī* 'others'. In a word with non-front vowel in the root this suffix more often appears as *-tor-*: OCS *kotoryi* (and seldom *koteryi*) 'which', R *kotóryj*, Br *katóry*, P *który*, Sk *ktorý* vs. more conservative Cz *který*, Sn *katéri*. Vacillations are frequent in numerals: OCS *četvorъ* 'fourfold', R *čétvero* 'four', P *czworo*, Cz *čtvero*, SC *čȅtvoro*, etc. (Cf. Li *ketverí*). It may be assumed that at first the distribution of *-er-* and *-or-* forms depended on the vowel of the root but then a certain form was generalized in all the numerals in a given Sl dialect.

The principle of vowel harmony is easily discernible in subst with the suffix *-et-/-ot-* denoting usually intensive actions and noises. Mostly it is the vowel of the root which determines the vowel of the suffix; but occasionally the vowel of the suffix affects the vowel of the root. Although there are some inconsistencies, in general the distribution clearly follows the principle of vocalic harmony, e.g. OCS *klopotъ* 'noise', P *kłopot* 'trouble', Cz *klopot* 'hurry', Sn *klopòt* 'tapping' vs. Sn *klepèt*, SC *klȅpēt*; OCS *lopotivъ* 'stammering', OCz *lopot* 'trouble' vs. R *lépet* 'babble'. The principle of vowel harmony goes even further in the case of this suffix: there is an *-ŭt-* variant, and it is most frequently used (although not exclusively) with the roots which had *ŭ*: OCS *rъpъtъ* 'murmur', R *rópot*, Cz *rept*. The endings do not exert any influence on the choice of the variant of the suffix (On the origin of the *o* ~ *e* distribution in this type of words see 6, 3).

Probably of a later date is the substitution of *e* for *o* before *ě* in OCS *debrěe* (Zo, As) along with *dobrěe* 'better', LS, US *derje* 'good' (*debri*, 1597), and OCS *odelěti*, *odelěvati* 'overcome' (Su) along with *odolěti*.

The tendency to "disyllabic harmony" went on operating at a later time. When *ŭ*, *ĭ* changed into ъ, ь respectively, in certain positions reduced vowels (See 29,1), they were more liable to regressive assimilations. These changes naturally are not CS but they are not always limited to just one language. The most important cases of this type are:

a) *ŭ* > *ĭ* before *ĭ*: along with OCS *trъstь* 'reed' (Su), R *trost'*, P *treść*, Cz *trest'* (Cf. Li *trušìs*, Le *trusis* 'rush') OCS also had *trьstь* (ES) and so it was in OR with its doublets *trъstь*, *trьstь*. In R dialects the form *trest'* is recorded in the area of Archangel. Rm *tréstie* 'reeds', a loan word from Sl also shows that the ь-forms were not just spelling peculiarities;

RChSl *rьdьrъ* 'red', R dial *rëdryj*, from **rъdьrъ*, a cognate of *rudá* 'ore', *rúsyj* 'blond', cf. Li *rùdas* 'reddish-brown', Le *ruds* 'reddish', OI *rudhirás* 'red', Gr ἐρυθρός, La *ruber*;

along with the expected OP *debrz* 'gorge' (Cf. Li *duburỹs* 'cavity, depression', Le *dubra* 'puddle') there are OCS *dьbrь*, R *debr'*;

along with OCS *mъdьlostь* 'weakness', LS *módly* 'feeble', in alternation with *muditi* 'linger', there are also ь-forms: R *médlennyj* 'slow' (Cf. 5,11);

OCS *bezdьnъ* ~ *bezdenъ* (PS) 'bottomless', *bezdenie* (PS, ES, Su) 'depth', U *den* 'bottom' (gen pl), Br *dzénca* (dim) as opposed to the expected forms with ъ found in OCS *bezdъna* 'abyss', R *bezdónnyj* 'bottomless' (Cf. Li *dubùs* 'deep, hollow') are hard to explain, for in most of them the next syllable has a non-front vowel; possibly they developed from the dim *dъnьce*;

R *bedrenéc* 'burnet saxifrage', P *biedrzeniec* as compared to R *bódryj* 'cheerful', originally with ъ.

b) ĭ > ŭ before ŭ: OR *tъnъkъ* 'thin', R *tónkij*, Br *tónki*, U *tonkýj*, Bg *tənək* reflect the form with ъ in the root while OCS *tьnъkъ*, P *cienki*, LS *śańki*, US *ćeńki*, M *tenok* continue CS ĭ as shown by its alternation with ę in P *ciąć* 'cut', Cz *títi*, etc.;

RChSl *nъštvy* 'trough', R *nóčva*, Br, U *nóčvy*, Bg *nəštve* 'kneading trough' vs. P *niecki*, LS *njacki*, US *mjecki* – from **nĭktjū* (Cf. Gr νίπτω 'wash'). This change in the dialects of CS must have taken place prior to the first delabialization of rounded vowels, i.e. when -ū had not yet changed into -ī after **ktj* > *ć*;

ShSl, OR *zъdъčii* 'architect', R *zódčij*, based on OCS *zьdь* 'wall', Cz *zed'*, Sn, SC *zîd* – cf. Li *žiẽsti* 'shape, build', OPr *seydis* 'wall'.

In loan words of later date the tendency toward vowel harmony occasionally operated with vowels other than ъ, ь: Gr Νέστωρ, Μεθόδιος, personal names, are attested in OR as *Nesterъ*, *Nefedъ*.

Apparently the opposite process occurred in OCS *skъlęзь*, a coin. Instead of the expected ь (the word is borrowed from Germ **skillings*), ъ is found before a syllable with a front vowel. This is however a means of avoiding palatalization of *sk-* into *sc-* in a loan word and has nothing to do with vowel harmony.

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24. SHIFTS IN DISTRIBUTION OF VOICED AND UNVOICED CONSONANTS

1. General statement. 2. Voicing and unvoicing of root-initial consonants. 3. Combined voicing or unvoicing of prevocalic and postvocalic root consonants. 4. Variations in voicing of root-final consonants. 5. Summary. Chronology.

1. Along with the underdeveloped tendency toward vocalic harmony within a word ("disyllabic harmony", see 23,15) one may suspect a feeble trend toward harmonization of consonants, usually within a root, viz. the use of either all voiced or all voiceless consonants before and after the root vowel. There are substitutions of voiced consonants for voiceless and vice versa in a group of words. These phenomena remained marginal however. Often they took place only in those instances in which they were prompted by certain other favorable factors. These factors are manifold and heterogeneous. In many a case several operated at the same time; often it is difficult to establish which were decisive. Instances are numerous in which the interplay of these factors or even their presence is no longer reconstructible. The principal factors involved could have been affective emphasis, onomatopoeic association, assimilation, blending, creation of rhyme-words, resistance to homonymy, fluctuating rendition of loan words. A view was expressed that in certain cases a laryngeal (H_3) could have produced voicing. *Sandhi* could have exerted an influence, especially, in root final position and an interplay of "root determinatives" is also to be taken into account.

Because of such a complex set of factors it is expedient to present the most typical data according to the position of the consonants changed and trace a general line for each position, suppressing minor details which are important for etymologies of individual words but would rather obscure the general trends. Three kinds of changes are possible according to the position and are actually represented: that of the root-initial consonant (or consonants), of root-final consonant (or consonants) and of both.

From the very outset those instances are to be eliminated from consideration in which voicing or unvoicing is undoubtedly due to blending, as in R, Br, U *vérša* 'creel', P *wiersza*, LS, US *wjerš(a)*, Cz *vrše*, Sn *vŕša*, SC *vȑš(v)a*, Bg *vrə̀ša*, going back to the root **vìrz-* (OCS *razvrъzati* 'open'), cf. Li *veržỹs* 'cord', Le *varza*; *š* instead of the expected *ž* comes from a blending with the root (OCS) *vrъxъ* 'top'. Instances of this type do not depend on any particular phonetic and phonemic system and occur occasionally in the Mo Sl languages and dialects as well. E. g. LS, US *strowy* 'healthy' instead of **zdrowy* (P *zdrowy*, OCS *sъdravъ*) is due to blending of **sdrov-* with **strob-* (Cf. OR *ustorobiti sja* 'recover'[1]). Ka *bästrï* 'motley, spotted' which goes back to **pïstrŭ* (R *pëstryj*) owes its initial *b* to blending with the root represented by R *bzdet'* 'pedere' (cf. P *pstrąg* ~dial *bzdrąg* 'trout').

2. Voicing and unvoicing of root-initial consonants. A CS example is R, Br, P, Sk, Cz, Bg *drozd* 'ouzel', U *drizd*, LS *drozn*, US *drózn*, Sn *drôzg*, SC *drȍzd* from IE **trosdos* (Li *strãzdas*, Le *strazds*, OPr *tresde*, MIr *truid* 'starling', ON *þrǫstr* 'ouzel').

[1] The possibility of a progressive assimilation *sd* > *st* instead of the more usual regressive *sd* > *zd* is also to be reckoned with.

In the case of OCS *gluxъ* 'deaf', etc., Li corresponds with *glusnùs* 'obedient', but otherwise Balt has *k*- forms: Li *klusnùs*. Le *kluss* 'quiet', OPr *poklusman* 'obedient'. It is Sl here which preserves the older form while the innovation is Balt (to a great extent blending the root at issue with that of Li *klausýti* 'listen'). Cf. also OCS *golǫbь* 'pigeon', etc., vs. La *columba*.

Other instances in Sl are dialectal from the point of view of CS. The following may be cited:

OR *bljušč* 'ivy', P *bluszcz*, LS *blišć*, US *blušć*, Sn *bljúšč*, SC *bljȗšt* 'black bryony' – cf. Gr. ἀνα-βλυστονεῖν 'sprout', possibly OPr **bleusky* 'reed' – vs. R, U, Br *pljušč*, Pb *pl'aųst'ă* (pillegaustga, gen sg[2]), SC *pljȕšt*;

Sk *per(n)a* 'lip' – cf. Le *puȓns* 'snout', Hi *puri* 'mouth' vs. Cz *Brno*, city-name, originally 'river mouth', Bg *bǝ́rna* 'lip'; also Li *burnà* 'mouth';

OCS *(po)glъtiti* 'swallow', R *glotát'*, Br *hlytác'*, U *hlytáty*, Sk *hltat'*, Cz *hltati*, Sn *goltáti*, SC *gùtati*, M *golta*, Bg *gǝ́ltam* – cf. La *glūtiō* – vs. U *kovtáty*;

R *toptát'* 'trample down', Br *taptác'*, U *toptáty*, LS *teptaś*, US *teptać*, Sn *teptáti*, Bg *tǝptjá* – cf. OI *tupáti* 'push', Gr τύπτω 'hit', Le *staũpe* 'horse's footstep' – vs. P *deptać* 'trample down', Sk *deptat'*, Cz *deptati*, SC *dȅpiti* 'hit';

Cf. also the onomatopoeic R *práskat'* 'crack', Cz *praskati*, Sn *prâskati* 'crackle', SC *prȁskati* 'crack', etc. vs. Li *braškė́ti* (but Le *prakšķêt*).

Except for P *deptać*, etc., in all the examples quoted the initial consonant is voiced or unvoiced in accordance with the consonants which follow the root vowel; this is typical of the phenomenon as a whole. There is an apparent tendency to have in the root all the consonants with voice opposition become uniformly voiced or voiceless. This may be considered a tendency toward harmony of consonants, but in reality it is nothing but regressive assimilation. The exception in P *deptać*, etc., can be explained as a blending (with the root *dup*- as in P *dupa* 'buttock', Cz *doupě* 'pit', etc.).

Needless to say, this assimilation, like all assimilations, never became a general law, as shown by innumerable roots with both voiced and voiceless consonants in the same root, e. g. R *gus'* 'goose', *(po)kazát'* 'show', etc. In fact, it may be assumed that in each case where the assimilation operated there must have been some additional reasons of affective, onomatopoeic i. e. in general semantic nature. But it is noteworthy that as a rule, changes which theoretically could have proceeded in either direction – to a homogeneous or to a heterogeneous make-up of the consonantal components of the root moved toward homogeneity.

3. Combined voicing or unvoicing of prevocalic and postvocalic root consonants. Although the changes of root initial consonants in voicing reveal the general tendency of these changes toward a kind of "consonantal harmony", they operate each time in the framework of simple assimilations. Cases in which all consonants having voice opposition change, on both sides of the root vowel, seem more interesting and unusual:

OCS *drobiti* 'break in pieces', R *drobít'*, P *drobić*, LS *drobiś*, Cz *drobiti*, Sn *drobíti*, SC *dròbiti*, M *drobi*, Bg *drobjá*, compared to Go *gadraban* 'hew', has its nearest correspondences in Li *trapùs* 'fragile', Le *trapêt* 'decompose', with both *t* and *p* voiceless;

OCS *tǫtьnъ* 'noise', P *tętnić* 'sound', SC *tȗtanj* 'rumble', M *tatne* 'bang, roar' as compared with OI *tanayitnúṣ* 'thundering', La *tintinuō* 'tinkle', OHG *donar* 'thunder' – vs. U *dudníty* 'drone', P *dudnić*;

R *kolpíca* 'she-swan', Ka *kielp* 'swan', US *kolp*, OSC *kup* ~ *kuf* – vs. Li *gul̃bis*, OLG *galpōn* 'call loudly'; the forms *guf* ~ *gub* cited in some SC dictionaries of older date, but considered uncertain, correspond strikingly to the Li forms, undoubtedly unknown to the compilers of these dictionaries;

[2] The initial consonant in Pb is uncertain. Lehr-Spławiński read it as *b*.

OCS, P, US *krasa* 'beauty', R, Br, U *krasá*, LS *kšasa* 'splendor', SC, Bg *krása* 'snake' (euphemistically) – vs. Li *grõžis* 'beauty', *gražùs* 'beautiful';

R *krýsa* 'rat' – vs. R *gryzú* 'gnaw', cf. Alb *gërth* 'rat', Ir *gerzū* 'mouse';

R, Bg *trépet* 'trembling', P *trzpiot*, US *třepjet*, Sn *trepèt*, SC *trȇpēt*, M *trepet* – as compared with Li *trepùmas* 'briskness', Gr τρέπω 'turn', La *trepidus* 'tripping' – vs. Cz dial *drobit* 'shake', Li *drebė́ti*, Le *drebêt*.

Cases of this type are especially frequent in words which contain the clusters *sk*, *st* after the root vowel, which thus change into *zg*, *zd*, e. g.: P *trzaska* ~ *drzazga* 'chip', Cz *tříska* ~ OCz *dřizka* (*zk* for *zg*); R *prýskat'* ~ *brýzgat'* 'sprinkle, splash'; R dial *trusk* ~ *druzg* 'crack; brushwood'; the original opposition of **k'* + *st* vs. **g'* + *zd* is reflected in R *svist* 'whistle', U *svyst*, P *świst*, Cz *svist*, Sn *svîsk* 'hiss' vs. Br *zvizd*, R *zvezdanút'* 'bang, hit', Sn *zvízdati* 'whistle', SC *zvíznuti*, while **g'* changed by dissimilation into *g* in P *gwizdać*, LS *gwizdaś*, US *hwizdać*, Sk *hvízdat'*, Cz *hvízdati*. To the first set of forms cf. ON *hvísla* 'whisper', AS *hvístlian* 'whistle', to the second Li *su-žvìgti* 'scream, whistle'.

The substitution of voiced consonants for voiceless is alive in the affective vocabulary of the Sl languages of our days, e. g. U *torópalo* ~ *odoróbalo* 'bumpkin', Cz *těpnout* ~ *děbnout* 'carry (heavy things'), *chichot* ~ *hihot* 'giggle', etc.

Of the older strata it is characteristic that the words involved are onomatopoeic or affective; and that they contain *r*, *l* or a nasal consonant (in later forms often hidden in the reflexes of nasal vowels) and or the clusters *sk*, *st* ~ *zg*, *zd* at the end of their roots. These observations allow the conclusion that one is dealing here with originally affective variants of the words. It is to be assumed that for a certain time, say, *krysa* (**krūsₒā*) existed along with the etymologically expected **gryza* (**grūzₒā*), *krasa* with **graza*, etc. It may also be supposed that, as a rule, those variants better survived whose etymological connections were less evident: because of the lack of these ties they were more emotional. When the original version had been lost the affective character of the surviver was to be lost gradually, too.

Thus "consonantal harmony" of this type characterized the affective elements of CS. And yet, theoretically, one can imagine, as a means of affectivity, divergent development of the two consonants, one becoming voiced, the other voiceless. This has never been the case. There is, consequently, a certain parallelism between the instances examined in section 2 and those presented here. In both cases the conditioning factors have nothing to do with consonantal harmony: these factors are phonetic (assimilations) or psychological (affectivity). However, once set in motion under the influence of these factors, words change in the spirit of "consonantal harmony".

4. Variations in voicing of root-final consonants. These cases are the most numerous. From a phonological point of view they are however the least significant.

Those words which ended in a consonant could change its voicing feature in certain phonetic environments following the rules of *sandhī*. For IE the "voicing type" of *sandhī* is assumed, i. e. voiceless final consonants were pronounced as voiced not only before voiced consonants which had voiceless counterparts (say before *b* which had voiceless counterpart *p*) but also before sonants and vowels. In Sl, however, after the loss of final consonants in all words except a few prepositions (See 15,1) these rules became irrelevant; save after prepositions, word boundaries presented a special phonetic problem only in cases – fairly frequent – of hiatus. This problem was solved largely by the rise of prothetic consonants (See 16,8). It in no way affected consonants ending roots. With the rules of the outdated IE "voicing type" of *sandhī* gradually forgotten, the "voiced form" of a great many prepositions, i. e. the statistically prevailing form with a final voiced consonant (as it occurred before vowels, sonants and voiced consonants) was perceived as the basic, normal form. Later, after the loss of final ъ, ь (See 29,8), when final consonants became possible again, this form of preposition in many Sl languages was generalized. This

explains why Sl has *iz* 'from' as a counterpart of Li *ìš*, OPr *is-*, Gr ἐξ, La *ex*, Ir *ess*, all with a voiceless final consonant; this *-z* spread to such prepositions/prefixes as *niz-* 'down' (OI *ni-*, Av *ni*, cf. OPr *et-nīwings* 'graceful'), **orz-* (OCS *raz-* 'asunder', cognate of OI *árdhas* 'part', Av *arəδa-* 'half, side', Li *ardýti* 'separate'), *bez-* 'without' (Li *bè*, OPr *bhe*, OI *bahís* 'besides'), possibly (*v*)*ŭz-* (OCS *vъz-*, cf. AS *upp*, but with a voiced consonant also in Balt: Li *už*, Le *uz*). Later, after the disintegration of CS, *ot* 'from' became *od* in all Sl languages except OCS, R, So, and Bg[3].

In words other than prepositions, variations in voicing of final consonants, insofar as these variations are CS, cannot be deduced from *sandhī*; for in the CS period these consonants were followed by a vowel. The oldest stratum of roots with varying root-final consonant consists of forms having these variations which are known also from non-Sl languages. It is to be assumed that in these words the varying consonants had not been originally a part of the root but were the so-called root determinatives, a kind of suffixes whose function is no longer discoverable. This may apply to such cases as:

ChSl *stlъba* 'ladder', R *stolb* 'post', P *Słubica*, place-name, Sn *stólb* 'pillar', SC *stŭba* 'ladder beam', M *stolb* 'pillar', Bg *stəlb* as compared to Li *stul̃bas* 'pillar'. Le *stulbs* 'shin', ON *stolpi* 'column' vs. OCS *stlъpъ* 'post', R *stolp*, Br *stowp*, U *stovp*, P, LS *słup*, Pb *staup*, US *stołp*, Sk *stlp*, Cz *sloup*, Sn *stólp*, SC *stûp*, Bg *stəlp* 'column' as compared to Li *stul̃pas* 'pillar', Le *stùlps* 'post, shin';

R *luzgá* 'shell', Br *luzhá*, Sn *lúzgati*, Bg *lúzgam* 'push' as compared to Li *lùzgana* 'hull, shell', *lùzgis* 'ragged fellow' vs. R, Br, U *luská* 'shell', P *łuska*, LS *łušćiś*, US *łušćić*, Cz *luska*, Sn *lŭsk* 'sheet', SC *ljȕska* 'scale' as compared to Li *lùskos* 'rags' (pl);

OCS *dupina* 'hollow (of a tree)', R, Br, U *dupló*, P *dupel*, Cz *doupa*, Sn *dúplo*, SC *dúplja*, M *dupka*, Bg *dúpəl* 'hollow' as compared to Le *duplis* 'container for salt or fat', MHG *tobel* 'hollow, valley' vs. OCS *dъbrъ* 'ravine', OP *debrz*, Sk *debra*, Cz *debř* as compared to Li *duburỹs* 'gorge', Le *dubra* 'puddle', Ir (*fo*)*domain* 'deep', Go *diups*.

Further examples with variations in voicing of the root-final consonant, not limited to Sl, are OCS *plodъ* 'fruit' vs. Ir *loth* 'foal'; OCS *skopiti* 'castrate', cf. Li *skapiù* 'hollow', Gr σκάπτω 'dig' vs. R *skoblít'* 'scrape', cf. Li *skabiù* 'scrape', La *scabō* 'scratch, rub'; R *smorkát'* 'blow (nose)' vs. Br *smórhac'* 'pull, pluck', cf. Li *smùrgas* 'snivel'; OCS *kazati* 'explain, show', cf. OI *kā́śāte* 'appear', Av *ākasat* 'noticed', Gr τέκ-μαρ (< **kʷek'-mōr*) 'sign'; R *most* 'bridge' – cf. La *mālus* (< **mazdos*) 'mast', Ir *maide* (< **mazdi̯os*) 'stick', OHG *mast* 'pole'; OCS *mъčьtъ* 'fantasy', cf. La *micō* 'glitter, stir' vs. R *migát'* 'blink' as compared with Le *midzêt* 'swarm'; OCS *pьsati* 'write', cf. OPr *peisāi* 'write' (3 pl) vs. OCS *pěgotivъ* 'leper', cf. La *pingō* 'paint'; OCS *stepenь* 'step', cf. Li *stãpas* 'prop' vs. OHG *stuof*(*f*)*a* 'step' (with the reflex of IE *b*); OCS *strъkъ* 'swan', cf. Le *stirka* 'daddy long-legs' vs. OHG *storah* 'stork' (with the reflex of IE *g*); OCS *trъdъ* 'hard', cf. Li *tvìrtas* 'solid'; OCS *prǫtъ* 'withe', cf. ON *spretta* 'burst (of buds)', Eng *sprint* 'run' (with the reflexes of IE *d*); OCS *gos-podь* 'lord', cf. La *potis* 'mighty', etc. For details see etymological dictionaries.

There are also quite a few roots in which variation of voiceless vs. voiced root-final consonants is attested primarily within Sl. One may assume that the two forms of the root in many instances go back to dialectal division of CS. But it is hardly possible to know whether this applies to any particular root and if so what was the original geographical distribution of these forms. A few examples will suffice:

OCS *trǫdъ*, a disease, Sk *trúd* 'drone', Cz *troud* 'tinder; fungus', Sn *trọ̑d*, SC *trûd* vs. R *trut*, Bg *trət*, cf. Li *trandìs* 'moth larva';

OCS *drǫgъ* 'stick', P *drąg* 'pole', Cz *drouh* 'heaver', Sn *drọ̑g* 'pole', OSC *drug*, Bg *drəg* vs. R dial *druk*, U *drjuk*, P *drączek*, cf. Li (Žem) *dránga* 'pole', Ir *dringim*;

[3] For the generalization of final *-d* in prepositions cf. the transformation of *za* 'behind' into *zad* in M and Bg.

R, Br, U *čub* 'forelock', P *czub*, Sk, Cz *čub* 'crest' vs. R dial *čup* 'forelock', Br, U *čuprýna*, SC *čȕpa* 'bunch of hair', cf. Go *skuft* 'head hair', ON *skúfr* 'tuft'.

Further examples are R dial *póroz* 'bull, steer', etc., vs. R *porosënok* 'sucking pig', etc.; OCS *kokotъ* 'rooster', etc., vs. Cz *kohout*, etc.; Cz *smrž* 'morel', etc., vs. R *smorčók*, etc. The variation occurs again (See section 3) particularly often in the clusters *sk* ~ *zg*, e. g.: OCS *probrězgъ* 'dawn', etc., vs. Sn *brę̑sk* 'daybreak', etc.; R *vizg* 'wimpering', etc. vs. P *wiskać* 'wimper'; R *drýzgat'* 'to dirty', etc., vs. Bg *drískam* 'have a movement', etc.; R *Moskvá*, river-name, etc. vs. Sk *môzga* 'puddle', etc. For details see etymological dictionaries.

Finally there are cases of vacillations or deviations limited to one Sl language. They mostly occur in word-final position and may have arisen after the loss of final ъ, ь, as a result of devoicing of final consonants, which created two forms of the root: one with an unvoiced consonant before # endings and another with a voiced one before other endings, as in R [rap] 'servant' (spelled *rab*) vs. [rabá] (gen sg). Levelings could easily take place in this situation. In general, however, the number of such levelings is amazingly small. They belong to the histories of individual Sl languages. Just as examples the following may be mentioned, without going into details: R *ërš* 'ruff' vs. U *jorž*; R *morž* 'walrus', though probably borrowed from Lappish *moršša*; Cz *havět'* 'vermin, mob' vs. P *gawiędź*, etc.

5. Summary. Chronology. Although each pair of words differing in use of voiced vs. voiceless consonant or consonants in the root has its individual history, the following basic types may be established:

a) Variation of initial consonants(s). The main factor in these changes was regressive assimilation to the consonant following the root vowel.

b) Mutation of both consonants, before and after the root vowel. These changes were brought about primarily by an affective factor.

c) Variation of final root consonant(s). Aside from *sandhi* phenomena the oldest stratum has resulted from an interplay of root determinatives in IE. A newer stratum has been caused by blendings (responsible also for some changes listed under a and b). The newest group arose from a duality of root form in some words, which developed after the loss of final ъ and ь and subsequent loss of voice in the new final consonants.

If one excludes from these considerations cases of blending, which are irrelevant for historical phonology, as well as those developments which took place in the time after the break-up of Sl unity, the oldest stratum of the enumerated changes would be (c), which is pre-CS. The phenomena under (a) belong basically to the CS period. As to those under (b), they could have occurred at any time, but inasmuch as they resulted in a kind of "consonantal harmony" typical otherwise of (a) their main body may be ranked along with those classified as (a). Although there are hardly any direct chronological clues concerning both it may be assumed, logically, that (a) and (b) operated more easily than ever at the time of a manifest trend in CS toward "disyllabic harmony" in vowels and then also in consonants, i. e. at the latest period of CS before its disintegration. Of course, it would be erroneous to apply this logical assumption to any particular word. Not all the words were affected at the same time. It is only an intensification of these processes which is assumed for predivisional CS. Which particular words (roots) were reshaped at that time and which previously is a question that will hardly ever be answered.

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25. DEVELOPMENTS OF THE CLUSTERS *TL*, *DL*

1. General statement. 2. Baltic area. 3. Balkan-Dnieper area. 4. Carpatho-Alpine area. 5. Examples. 6. Chronology. 7. General character and effects of the change.

1. In 13,7 a general outline of the development of the clusters *tl*, *dl* was presented in order to show that their simplification into *l* did not belong to the period in which CS simplified most of its consonantal clusters. Geographical and chronological considerations as well as an analysis of the nature of the change *tl*, *dl* > *l* showed that it was a change apart which occurred at a later period in the history of CS, in fact during its rapidly progressing dissolution. Now that the presentation of the history of CS has reached this point the problem is to be taken up and examined in more detail.

As stated in 13,7, the changes of the clusters *tl*, *dl* proceeded differently in the dialects of CS. Three types of development are obvious: Baltic, Carpatho-Alpine, and Balkan-Dnieper.

2. Baltic area. In Li and Le *tl*, *dl* are represented as *kl*, *gl*. OPr retained *dl* unchanged and for the most part *tl* also, but the Pomesanian dialect (represented by the Glossary of Elbing) changed *tl* into *kl*. Thus, Li *ẽglė* 'fir tree', Le *egle*, OPr (Pomesanian) *addle* correspond to La *ebulum* 'elder'; Li *žénklas* 'sign', OPr (Samland) (*eb*)*sentliuns* 'marked' both had the suffix **tl*; Li *stãklė* 'skirtboard', Le *stakle* 'ramification', OPr (Pomesanian) *stackle* have their *kl* < *tl*. From Li and Le, transgressing the boundaries of the Balt languages, the innovation spread to the adjacent Sl tribes. It became typical of the Sl dialects in the Pskov area, Kashubia and Mazovia, but it also affected the areas of Novgorod in the East and Great Poland in the South, though with diminished force.

In both its extensions, eastward and southward, the *kl*, *gl*-forms are mostly extinct by now, crowded out by the reflexes in the influential standard languages; Br, R, and P. Yet the traces of *kl*, *gl*-clusters are copious in the old texts; they are also evidenced as remnants by dialect records of later times as well as by Sl loan words in the adjacent non-Sl languages.

In the oldest Pskov texts (fourteenth century) forms with *kl*, *gl* < *tl*, *dl* were first discovered by L. Vasil'ev, e.g. in the first Chronicle of Pskov *bljuglisja* 'beware' (3 pl, perf), *privegli* 'lead' (3 pl, perf), *sustrěkli* 'meet' (3 pl, perf), etc. In the later *Piscovaja kniga* of Pskov the form *žereglo* 'mouth' (of the river Mda) is attested (Cf. P *źródło* 'well', U *džereló*). In the Pskov dialects of the nineteenth-twentieth century some scattered forms of the same type have been recorded: *žagló* 'sting' (R *žálo*), *perecok* 'reread' (sg, pret; R *perečël*, final *-l* is

lost; *č* > *c* because of *cokan'e*). In the Novgorod area such forms are rather rare but in the fourth Chronicle of Novgorod one finds *vozmjaklasja* 'rebel' (fem sg perf), etc., and the form *négla* 'larch' (R *el'*) occurs as far east as the provinces of Olonec, Archangel and Vladimir. It is possible that the river-name *Eglina* attested in the areas of Gdov, Mologa, Puškin, Valdaj, and Tixvin has the same root, although attempts were made to derive it from another stem represented in R *iglá* 'needle', with CS *g*. Sl loan words in other languages show that in earlier times *kl*, *gl* (from *tl*, *dl*) were much more widespread in the regions of Pskov and possibly Novgorod. Est has *mugl* ~ *mogl* 'alkaline solution' borrowed from the Sl local form **myglo* (or from the older form **mūglₒa*) 'soap' (R *mýlo*, P *mydło*), and *vigl* 'pitchfork' from Sl local **vigla* (R *vila*, P *widła*). Veps also has *mugl* 'alkaline solution'. On the other hand, toward the south Br *sustrakác'* 'meet' might owe its peculiar *k* only to Pskov forms of the type **sustrěkli* 'they met', with *kl* < *tl* (Cf. U *zu-stríly*).

Ka dialects have *smãrglänă* 'black alder', *žą̃glö* 'sting' < **smordlina*, **žędlo*, both in Snc; SKa also has *žąglo*. The forms *mgły* instead of standard *mdły* 'sickly', *mgleć* instead of *mdleć* 'faint' spread to all P dialects save Silesian, but their densest concentration is still typical of Mazovia and Kujawy. In OP, mostly of Mazovia, the forms *moglić się* 'pray', *moglitwa* 'prayer' are well attested. Dialectally such forms as *jegla* 'fir tree', *vǫglina* 'smoked food', *zbžig* 'became sick of' are found instead of standard P *jodła*, *wędlina*, *zbrzydł*, etc.

Thus the presence of *kl*, *gl*-forms and their area are safely established for older Sl dialects which were adjacent to the Balt languages. It is also obvious that in this area *tl*, *dl* changed into *kl*, *gl* before the simplifications of *tl*, *dl* clusters started in the Balkan – Dnieper dialects of CS. When these changes occurred there the Balt dialects of CS no longer had *tl*, *dl*-clusters; naturally, they could not praticipate in the development of the Balkan – Dnieper dialects.

3. Balkan-Dnieper area. A much larger group of Sl dialects, from the Upper Dnieper down into Greece, from which developed Mo SC, M, Bg, U, Br, SR, and probably the eastern part of NR, as well as Proto-SSn and Proto-SCeSk dialects, simplified the clusters *tl*, *dl* into *l*. The isoglosses of this change, as shown by Tesnière, do not exactly coincide in separate words, but basically they ran parallel from the Adriatic sea to the Carpathian mountains, cutting in two both Sn and CeSk. Examination of the isoglosses also shows that isolated words more easily followed the trend and dropped *t*, *d* preceding *l*, while those in which *t*, *d* were supported by other forms where they were not followed by *l* resisted more strongly. The latter were primarily verbal forms in *-l-*, in which the pres supported the survival of *t*, *d* (e.g. *padlъ*, *padla* supported by pres *padǫ*, *padeši*, etc. 'fall'). For this reason the simplification of *tl*, *dl*-clusters reached farther north in isolated words than in these verbal forms. The situation in standard Sn reflects this fact: it has the simplified clusters in isolated words but preserves *t*, *d* in verbal *-l-* forms, e.g. *pâdel*, *pádla* 'fell' (*pádem* 'I fall'), *cvetèl*, *cvetlà* 'bloomed' (*cvetèm* 'I bloom'), etc. while it has only *krílọ* 'wing', *šílọ* 'awl', etc. (P *skrzydło*, *szydło*).

Verbal forms with *tl*, *dl*, and only these, are also recorded in the dialects of Timok, transitional from SC to Bg, e.g. *iskrádla* 'she stole', *uplétle* 'they wove'. It is usually believed that *t* and *d* in these forms do not continue the CS situation but have been restored under the influence of the pres forms of the type *iskradem*, *upletem*, etc. Cf. the two past tense forms *jel*, *jéla* and *jedél*, both 'ate', according to the two pres forms: older *jěmь* and newer *jedém*, which is used now.

4. Carpatho-Alpine area. The clusters *tl*, *dl* were retained unchanged in the Sl dialects stretching from the Alps to the Carpathians but also going far north along the Elbe, i.e. in NSn, Cz, NW and NCeSk, ESk, SP, So, and Pb in modern terms. Exceptions are few and easily justified.

The *l*-participle forms of the verb *i-ti* 'go' drop *d* in the cluster *šdl-* which arose after the loss of *ь* in *šьdl-*, e.g. fem P *szla*, Sk, Cz *šla*, etc.; P preserved *d* in masc *szedł*, while So, Sk and Cz generalized the analogical form without *d*: *šel*. It is also in a three-member cluster that US simplified *hordło* 'crop' to *horło*, although the older form is still in use as well.

The forms with and without *d* seem to be distributed haphazardly in the root denoting 'settlement' and its derivatives: OP *siodłak* 'peasant', P *Siedlce*, town-name, vs. *sioło* 'village'; LS *sedło* 'apartment', *sedłak* 'peasant'; US *sedłak*, Sk *sedliak*, Cz *sídlo* 'residence', *sedlák* 'peasant' vs. *selo* 'village, field'. Cf. also *Zedlitz*, a Sl place-name in N Austria. This variety of forms is produced by the confusion of two roots which originally had nothing in common: the forms with *d* have the same root as the verb *sěděti* 'seat', cf. La *sella* 'chair' (< **sedlā*), Go *sitls* 'residence, seat' while the forms without *d* belong to the word family represented by Li *salà* 'village', ELe *sola*, La *solum* 'soil', Go *saliþ-wōs* 'refuge'.

The greatest number of exceptions is found in LS. Most words with the suffix *-dl(o)* could lose *d*, e.g. *jěźdźiło* 'thoroughfare', *sało* 'grease'. One would be inclined to seek the reasons for this in the proximity of LS with the Balt group of Sl dialects which do not have *tl*, *dl*-clusters. But OLS texts show that this loss took place in the seventeenth century in the diminutives ending in *-dłko*, i.e. in a three-member cluster. The forms with *-ło* instead of *-dło* are consequently new and based on the diminutives.

Even more recent is the change *dl* > *l* in some WSk and NECz dialects where long *l* is pronounced, although generally alien to the phonemic systems of these dialects: *milo* 'soap', *jela* 'ate', etc.

5. Examples. The following are a few examples of the treatment of *tl*, *dl*-clusters in the attested Sl languages. The Balt dialects of Sl are not represented, for by now their *kl*, *gl*-forms are virtually extinct.

OCS *moliti* 'ask, pray', R *molít'*, Br *malíc'*, U *molýty*, P *modlić się*, LS *modliś*, US *modlić so*, Sk *modlit' sa*, Cz *modliti se*, Sn *móliti* (but OSn *modliti se* – FrFr), SC *móliti*, M *moli*, Bg *moljá* as compared with Li *maldýti* 'entreat', Arm *malt'em* 'beseech', OHG *meldôn*, Hi *mald-* 'ask, talk' (In CS *ld* > *dl* by metathesis, possibly with taboo motivations);

R *pjálo* 'frame (of loom)', U *pjálo*, OCz *padla* (pl) 'rack', SC *propélo* 'crucifix' as compared with Li *pìnklas* 'band', Le *pineklis* 'fetter';

Br dial *blícy* 'mushrooms, sponge', P *bedla* 'sponge', Cz *bedla* 'fungus' (< **bŭdl-*) as compared with OI *budbudas* 'bubble', La *buda* 'reedmace', Sw *puta* 'blow';

Br *arěli* 'swing, seesaw' as compared with Li *rěkles* 'scaffolding of poles', La *retae* 'trees protruding from water'.

Further examples: R *ralo* 'plough' – P *radło*; R *mlet'* 'faint' – P *mdleć*; R *gorlo* 'throat' – P *gardło*; SC *krílo* 'wing' – Cz *křídlo*; Sn *sûlica* 'spear' – Cz *sudlice* 'javelin'; P *bydło* 'cattle'; R *el'* 'fir tree' – Cz *jedla*; R *mýlo* 'soap' – P *mydło*; R *sálo* 'lard' – P *sadło*, as well as numerous subst with the suffix *-il(o)* ~ *-idl(o)*, e. g. R *udilá* 'curb bit' (pl) vs. Cz *udidlo*; and part in *-l* of first class verbs with the root ending in *t* or *d*, as R *pletú* : *plël* 'plait', *kradú* : *kral* 'steal' (P *plótl*, *kradł*).

6. Chronology. A general indication as to the chronology of the simplification *tl*, *dl* > *l* in the Balkan-Dnieper Sl dialects is given in 13,7. On the basis of the identical distribution of the isoglosses running through Sk and Sn it is assumed that this sound change could not have occurred sooner than the fourth – fifth century A.D., when the Slavs appeared in the area, nor later than the eighth – ninth century, when the Germans and the Hungarians broke the ties between the W and S Slavs. Certain data enable the student to specify this date. The tribal name OU *dulěbi*, OCz *Dúdlebi*, Sn *Dudlebi* was in all probability brought to SW Bohemia and to NE Slovenia by those Slavs who left Volynia, the primordial habitat of the tribe, and migrated with the Avars. This implies that at that time, no earlier than the middle or late sixth century, the cluster *dl* was still preserved in the area of Volynia. Otherwise Cz and Sn would have adopted the form without *d* before *l*. Consequently, the change *dl* > *l* did not take place before the second half of the sixth century. On the other hand, the FrFr compiled ca 850 A.D. have a simplified form (*crilatcem* 'angel', dat pl, not *kridl-*). This gives approximately the range between 600–850. In ESl the simplification was still operating when the ON name **Guđleifr* was borrowed from the Varangians, becaming *Gъlěbъ* (Mo R *Gleb*); this could not have occurred before the middle of the ninth century. The productivity of this tendency at the time when the original drafts of RPr were compiled is evident from the form OR *olěkъ* 'upper part of hive' (RPr) corresponding to OCS *otъlěkъ*, Li *ãtlaikas* 'rest'. One would expect restoration of the prefix soon after the extinction of the tendency.

In SSl *tl*, *dl* did not change into *l* if these clusters arose as a result of metathesis of a vowel with *l*: OCS *dlanь* 'palm (of hand)', *tlěšti* 'push' (< **d₀aln-*, **t₀alk-*. See 27,2). This fact, however, gives no indication as to the chronology of the simplification of *tl*, *dl*. As will be shown in section 7, the simplification of these clusters proceeded through the assimilation of *t*, *d* to *l*, which first resulted in long *l*. This never occurred in initial position. All the examples cited refer to middle position, and it is only in that position that the change took place. Therefore data concerning initial position are irrelevant for the chronology of the phenomenon.

To summarize, the change *tl*, *dl* > *l* must have occurred between 600–850, most likely between 700–850. It was unproductive when the weak *ъ*, *ь* were

lost (early tenth century in SSl): *tl*, *dl* which arose as a result of the loss of *ъ*, *ь* have been kept unchanged, e.g. SC *mètla*, R *metlá* 'broom', R *pódle* 'near' (< *metьla*, *podьlě*).

7. General character and effects of the change. The change *tl*, *dl* > *l* in the Balkan-Dnieper dialects of CS was not brought about by any tendency toward open syllables. Otherwise it would be inconceivable that it did not spread to the Carpatho-Alpine and Balt dialect groups. In their treatment of open and closed syllables these did not differ from the Balkan-Dnieper dialects.

The change *tl*, *dl* > *l* was a mere assimilation of two dentals. The first step in it was long *l*, in the same way as it is in modern developments of the same type in WSk and NECz (See section 4). As gemination of consonants was not admitted in Sl of the time, *l̄* could have been only a brief transitional stage, soon abandoned. The assimilation of dentals naturally did not extend to the clusters of labials or velars followed by *l*, which remained spared by the change, nor did it occur in initial position. Its gradual expansion from one word to another as visible from the variety of isoglosses in Central Sl is typical of sound changes based on environmentally conditioned assimilations.

The simplification of *tl*, *dl*-clusters did not introduce any changes in the Sl phonemic system. It was a marginal development, not a requirement of that system. This explains why it was slow in moving to the NW so that it never affected the Carpatho-Alpine Sl dialects. There should have been some weak resistance to the change for morphological reasons. The change *tl*, *dl* > *l* produced certain complications in morphology (stems truncated before *l*) and this contributed to the loosening of ties between the words affected in word derivation as well as between the forms in conjugation. Eventually, it contributed to the loss of productivity of first class verbs.

The changes of *tl*, *dl*-clusters did not fit into the traditional division of Sl into E, W, and SSl. All three groups were cut by isoglosses of the change, not a surprising fact because of the instability of the Sl groups at that time.

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26. SECOND DELABIALIZATION OF ROUNDED VOWELS AND RISE OF Ŏ

1. General statement. 2. Identification of CS *y*. Examples. 3. Phonetic value of *y*. 4. Chronology of the rise of *y*. 5. Conditions and effects. 6. Problem of *y* and *i* from *o* in loan words. 7. Delabialization of $_{o}\bar{a}$. 8. Chronology. 9. Rise of *ŏ*. 10. Dialectal peculiarities in the rise of *ŏ*: *akan'e*. 11. Conditions and effects.

1. Before its final disintegration CS went through a number of drastic shifts in its vowel system. They were ushered in by the delabialization of long rounded vowels: *ū* (u_1) changed into *y* and $_{o}\bar{a}$ into *a*. The delabialization did not affect $\bar{u}_2$ or *ǭ*. The latter was protected by its position apart, stemming from its nasality[1]. As for u_2, it was probably saved because it was articulated farther front than $\bar{u}_1$ and $_{o}\bar{a}$ (See 19,5). Thus, a more precise characterization of the second delabialization would be: delabialization of long oral back vowels. While calling this delabialization second (according to its place in the sequence of sound changes) it must be kept in mind that the conditions were quite different in the two delabializations. The first occurred after palatalized consonants and was motivated by them (See 18,1). The second delabialization did not depend on phonetic environment. Consequently, the first delabialization did not change the system of vowels, but the second initiated its fundamental reshaping.

Only the change *ū* > *y* may be considered to have been CS in the strict sense of the word, i.e. carried out in the same way in all the dialects of CS; and even this is not without some reservations (See section 3). The change $_{o}\bar{a} > \bar{a}$ had certain peculiarities in some dialects (See section 10), and of all the changes which followed none had a strictly CS character. On the other hand, their areas never coincided with each other or with later linguistic boundaries among the Sl nations. This justifies their treatment in the historical phonology of Sl as a whole. They belong to a period of fermentation and lack of stability in the history of the Slavs, when the old unity was dissolving and the new divisions were not yet beginning to take stable shape. Waves of sound changes radiated from one center or another, some penetrating very far, but none covering the whole Sl area and each stopping short at different limits. If the CS character of the change $\bar{u}_1 > y$ is refuted one would have to consider the rise of nasal vowels the last link in the chain of truly common Sl phonetic developments.

2. Identification of CS *y*. Examples. CS *y* can easily be identified from non-Sl IE languages: all of them have *ū* as the counterpart of CS *y*, except Gr which

[1] Dialectally, it also underwent a delabialization into *ą*. This may be assumed for the Proto-P, Proto-M, and Proto-Bg dialects.

has ŭ [$\bar{\ddot{u}}$] and Alb which may have *ü* (spelled *y*) or *i*. As to the Sl languages, R, Br, P, and So preserve *y* as a separate vowel (except after *k*, *g*, and, in R and Br also *x*, where *y* coalesced with *i*). Sk and Cz preserve it in their orthography while in the pronunciation of Sk and literary Cz it merged with *i* (except that the dentals *t*, *d*, *n* are palatalized before *i* from *i* and not before *i* from *y*); in colloquial Cz *y*, if still long, changed into a diphthong, *ej*. Also in Pb it is represented by a diphthong, viz. *oi* (after velars *ai*), as probably it was in most of the Obodrites tribal group in present day North Germany (hence spellings like *Spoitimer* for Sl *Spytiměrъ*, personal name, in Fulda *Annales*, *sub anno* 872). In other Sl languages *y* coalesced with *i*, in *i* (Sn, SC, M, Bg) or in a special sound of the order of *e* (U, denoted indiscriminately as *y*). The latter languages naturally are of little help in identifying the original *y*. About the origin of *y* in some endings see 22,11.

Examples: OCS *myti* 'wash', R *myt'*, Br *myc'*, U *myty*, P, US *myć*, Pb *moi̯t* (moyd), LS *myś*, Sk *myt'*, Cz *mýti* (Colloquial [mejt]), Sn *míti*, SC *mȉti*, M *mie*, Bg *míja* – cf. OI *mū́tram* 'urine', Av *mūϑrəm* 'dirtiness', Ir *mūn* 'urine', MLG *mûten* 'wash (face)';

OCS *vysokъ* 'high, tall', R *vysókij*, Br *vysóki*, U *vysókyj*, P, US *wysoki*, Pb *vói̯-sək* (wóyssik), OLS *wysoki* (later *husoki*, with *y* > *u* after *v* and *v* > *h* word initially, a change of the mid-seventeenth century), Sk, Cz *vysoký*, Sn *visòk*, SC *vìsok*, M *visok*, Bg *visók* – cf. Gr ὑφηλός 'high', Gallic *uxello-*, OHG *ûf* 'up';

SChSl *tylъ* 'back, rear', R, Br, U *tyl*, P, LS, US *tyl*, Pb *tål* (tohl), Sk *tylo* 'nape of neck', Cz *týl*, Sn *tîl*, M, Bg *til* – cf. Li *túlas* 'many', OPr *tūlan* 'much', Gr τύλος 'swell', Alb *tul* 'flesh (without bones)', Cym *twl* 'bulge'.

Further examples can be supplied by any R, P or Cz etymological dictionary if one takes up words with *y*.

3. Phonetic value of *y*. No difficulties arise as long as one uses a conventional denotation *y* for the reflex of $\bar{u}_1$, with the only understanding that it was not *ū*. Attempts to determine the positive phonetic value of this "y" encounter certain complications.

The simplest approach is to identify *y* with the corresponding vowel of R, Br, P, and So, which, if one ignores minor differences in its realization in these languages, may be roughly defined as a vowel articulated with the tongue in *u*-position and lips in *i* (or *ẹ*)-position. This is particularly tempting because Cz *y* in the fifteenth century, according to John Hus' description, was a sound of the same type.

Yet there is another viewpoint. Attention has been called to the puzzling fact that in Medieval records of Sl names and other words made by non-Slavs in Latin writing the diagraph *ui* is constantly recurrent in the remotest parts of the vast area occupied at that time by the Slavs. OPr texts have the loan words *cuylis* 'boar' (spelled *tuylis*) from Sl **kylь* (Cf. R dial *kiljäk* 'entire boar'), *wuysis* 'watchdog', from Sl **vyž-* (Cf. P *wyżel* 'setter'). Sl **Bryly* is rendered as *Bruile*, a place-name in N Germany (Distr. Wismar) in a record of 1222. In Bohemia a record of 1186 has *Buitſow* for *Bydžov*, another, of 1196, *Buitic* for *Bytic-*, still another, of 1226, *Buitſrice* for *Bystrica*. The FrFr have *buiti*, *mui*, *imugi* for *byti* 'be', *my* 'we', *imyi* 'having'. In Li *ui* for Sl *y* is found in the living language.

While *kuyla* 'breakage' is attested only in OLi (Szyrwid) and now is superseded by *kýla*, the forms *muilas* 'soap' and *muĩtas* 'toll' from Sl *mylo, myto* are still in use.

The counterargument that *ui* was used to denote *y* because in German spelling of the time it denoted /ü/ is pointless because /ü/ is in no case the same vowel as monophthongal *y*. While *y* roughly is a vowel articulated with the tongue in *u*-position and lips in *i*-position, *ü* is exactly the opposite: it has the *i*-position of the tongue and *u*-position of the lips.

The most striking fact is that in both Sl alphabets *y* is rendered by two letters which are ъ followed *i*, i.e. make the same combination as *ui* in Roman writing, although the German scribes doubtlessly did not know the Sl alphabets and could not base their spelling on these. The objection that the graphic make-up of *y* in the Sl alphabets was arbitrary and the digraph was chosen just because Gr had a digraph to denote *u* (ου) is not persuasive. A Gr digraph may very well have induced Constantine to use a digraph for Sl *u* but why should it inspire the creators of the Sl alphabets to invent another digraph for *y*? And if even so why should it consist precisely of ъ + *i*? Moreover, there is one essential difference between the two digraphs: that for *u* is written as a ligature in Glagolitic but not that for *y*, which is always spelled out in its entirety.

On the basis of these facts it was suggested that CS *y* was a diphthong of the *ui*-type. A minor but important detail which speaks in favor of this view was observed by Vaillant: the personal name that came to Sl from Gr Δαυίδ became in OCS *Davydъ*. The group *ui* was grasped as *y*, which should have yielded the form +*Daydъ*. In conditions of hiatus *v* was inserted between *a* and *y*.

Interesting as these arguments are, they are not completely convincing. Spellings of *ui* do occur everywhere, but along with the spellings *u* or *i* which, in fact, prevail. E.g. in the Gospel of Cividale (Čedad), also called Codex Aquileiensis, the names *Soběmysla*, *Pribyslavъ* are rendered as *Sobemuscla*, *Bribislau*. In Cz names *ui* occurs only after *b*, in the FrFr only after labials. In Pomeranian sources *ui* is found in a negligible number of cases. Li *ui* renders not only CS *y* but later Br *y*, which undoubtedly was and still is a monophthong. Tu and Fe correspondences may sometimes be arbitrary and, if taken at face value, misleading. E.g. R *mýza* 'farm' is borrowed from Est *mõisa* (Fi *moisio*). The borrowing was made in R about 1701. Does this mean that R *y* of the time was an *oi*-diphthong?

Thus the evidence is contradictory. Although some facts bespeak a diphthongal character of *y* (particularly *y* in OCS *Davydъ*, to a certain extent also the make-up of the letter for *y* in Glagolitic) there is no certainty that *y* really was a diphthong. It would be tempting to assume that it was an *ui*-type vowel at least among those Sl tribes which early changed *y* into *i*, i.e. all Balkan Slavs. But this assumption is not in conformity with the fact that Sl *y* is not rendered by any diphthongal combination in Sl place-names adopted by Gr. In older strata it sometimes was ου, in the newer ι (Examples in section 4). It should be added in all fairness however that at that time Gr had lost or was losing its diphthongs (so that even the Gr spelling Βοισέσθλαβος for Sl *Vyšeslavъ* does not imply a

diphthongal character for Sl *y*!). An important fact also is that Bg dialects in Banat (Bešenov) and Kərdžali area (Tixomir) still have *y* of the "Russian" type, i.e. a monophthongal *y*.

In short, it is not excluded that certain Sl dialects, most plausibly in the Balkans, could have had *y* with the phonetic value of an *ui*-diphthong. But it is impossible to pass definitive judgement on this and, if such dialects existed, to identify them geographically. The question must remain open.

4. Chronology of the rise of *y*. The time of transition from $\bar{u}_1$ to *y* may be deduced convincingly from the examination of loan words and place-names borrowed by the Slavs from their early neighbors, and vice versa. The facts from various areas, from the extreme north to the extreme south, do not contradict each other.

In Fi the oldest borrowings from Sl render $\bar{u}_1$ as *u*: Veps *mugl*, Est *mugl* (and *mogl*) 'alkaline solution', from regional Pskov and possibly Novgorod **mūgl*$_o$*a* > *myglo* 'soap'; Veps *kaput* 'hoof', cf. R *kopýto*. In later forms *ui* appears (Kar *mui̯la* 'soap' < OR *mylo;* Fi *vuitti* 'allotment' < OR *vytь*), still later *i*: Vot *vidra* < R *výdra* 'otter'. On the other hand, NR *pyž* 'young reindeer' borrowed from Votyak *pužej* ~ *pužej* 'reindeer' renders *u* as *y*. The word is attested since 1532, but the borrowing must have been much older. As the Sl-Fi contacts hardly go farther back than the seventh – eighth century these data indicate that at that time $\bar{u}_1$ was still preserved in the Sl dialects of the area.

Some examples of Sl loan words in OPr were cited in section 3. To them may be added: OPr *suiristio* 'whey' < **syrisko* (*syrъ* 'cheese'); OPr *waldwico* 'knight' (*wi* for *ui*) < **v*$_o$*aldūk*$_o$*ā* 'lord'. Later instead of *ui* a new rendition appears: *i*. Cf. OPr *birga-karkis* 'ladle', the second component going back to **kŭrky* (MP *korzkiew* 'ladle'). If one can rely on the absence of the metathesis $_o$*al* > *lo* in *waldwico* these borrowings should have taken place before the ninth century (See 27,14). True, NP dialects lagged considerably in this metathesis (See 27,11), but in a word meaning 'lord, ruler, knight', i.e. in a word with clearcut cultural and social associations, the predominant P form should have expanded north early. The oldest river-names borrowed by Sl from Balt render Balt *ū* as *y*: Br *Lyza*, confluent of the Sož, from **Lūž(i̯)a*, *Dyma*, confluent of the Dnieper, from **Dūma* (Cf. Le *dumjš* 'pale, dim').

In Sl borrowings from Germ the oldest stratum consistently has *y* for *ū*. The examples (*tynъ*, *xyzъ*, *myto*) were cited in 19,5. OBav of the eighth-ninth century renders $\bar{u}_1$ in Sl names as *u*, later as *iu*: *Dabramuzli* = *Dobromyslъ* (8th c.), **rūbinika* = *rybьnica* (Now *Raming-bach*) vs. **viustritz* = *bystrica* (Faistritz, 1410). The chronicle of Fredegar compiled ca. 660 probably in Burgundy renders Sl **v*$_o$*aldūk*$_o$*ā* (OCS *vladyka*) as *Walducus* 'dux Vinidorum'. NG texts which are of later date have a quite different practice: *oi* prevails west, *i* east of the Odra (In Pb *y* > *oi̯*!): *Loixoy* (1171), from **Lyskov*, now *Lischow*, distr. Wismar, *Wizok* (1230), from *Vysoka*, distr. Lauenburg, and many other.

Sl-Rom contacts point to the same chronology. In the records of Sl names made in the Gospel of Cividale between the late eighth and the late tenth century one observes the same switch from older *u* to newer *i*: *Primusl* (= *Prěmyslъ*) belongs to the older group, *Bribibor* (= *Pribyborъ*) to the newer. La *mūrum* 'wall' is a word often represented in both Sn and SC toponymics until the present day, e.g. *Mirje*, a street in Ljubljana, *ispod Mira*, a street in Dubrovnik. The root vowel *i* through **y* leads to *ū*, with which the Rom word entered into Sl. OFriulan *Udino*, a city-name, became in Sl **vydьnъ* > Sn *Viden*. Rom *allūviem* gave SC *Olib*, island-name (in the Archipelago of Zadar – Šibenik), *Sūsum* (< **sursum* 'up') – *Sis*, hill-name (on Cres), *Pastūra* ('pasture') – *Postire*, place-name (on Brač), *Mons acūtus* – *Matokit* ~ *Motokit*, place-name (in Dalmatia), and the same rendition is found in common words, as OCS *kotyga* 'shirt, garb', SC *kòtiga* < MLa *cotuca* (derived from *cotta* 'priest's tunic'). In the more recent borrowings it is *u* which renders Rom *ú*, e.g. *Brgud*, town-name (Krk) < *virgultum* 'shrubs', *Turnac*, cape-name (Krk) < *turrim* 'tower'.

The same two renditions of Sl $\bar{u}_1$ ~ *y* are found in Gr place-names of Sl origin: on the one hand, Μπούστρι < **Būstr-*, Μαγούλα < **M°agūl°ā* (Acarnia, Atolia), Βούτσι < **Būčij-*, Γαρούνα < **G°arūn-*, on the other hand Ῥιβιός, lake-name, < **Rybie* (Acarnia – Atolia), Καρύτσα < **K°aryt°a* (Laconia[2]).

Sl *y* is also found as a substitute for Thra *ū*, e.g. in Bg *Bit*, river-name, from Thra *ūto* 'water'.

From the abundant data of this type one infers that at the time of the first contacts of the Slavs not only with the Germans (which are old), but also with the Finns, the Prussians, the Romanic peoples of Friulia, Dalmatia and the Balkan peninsula in general, as well as the Greeks, Sl $\bar{u}_1$ had not yet changed into *y*. This change was carried out not earlier than the eighth century, more likely in the course of the ninth century. It was a common Sl fact by the tenth century[3].

A complication arises in the case of Rm. In spite of the fact that Sl-Rm contacts are not of a later date than Sl contacts with the Rom population in the West of the Balkan peninsula or with the Greeks, Rm has no *u*-reflexes of Sl *y*. In its loan words of Sl origin Rm renders Sl *y* as *i* (*a risipi* 'waste', from Sl (OCS) *razsypati*, *copită* 'hoof', etc.) or, after initial *h* and *r*, by *î* (*hîtru* 'cunning', *rîs* 'lynx' < *xytrъ*, *rysь*). Of course most of the borrowings from Sl into Rm, which originally contained $\bar{u}_1$, could have come to Rm at a later date, when in SSl $\bar{u}_1 > y > i$. But the complete lack of any forms with *u* is striking. It may be

[2] MGr υ was pronounced [i].

[3] In Ammianus Marcellinus' *Rerum gestarum libri* (ca. 390) a place-name is recorded as *Villa Pistrensis*, somewhere in the vicinity of Sirmium (now in N Yugoslavia). Considering the name as Sl (*Bystrica* is a widespread Sl river-name) the conclusion was reached that $\bar{u}_1$ yielded *y* by the fourth century. This is a naive delusion. In the fourth century the Slavs had not come to the area; the name is not Sl at all. It probably derives from La *pistrīnum* 'flour mill'. It is worth mentioning that when, much later, in the seventh century Anonymus of Ravenna wrote about a Sl *Bystrica*, this time a real one, he rendered the name as *fluvius Bustricius*, i.e. with *u*.

explained away however if it is assumed that, under the lasting and lively everyday contacts of the Romanians with the Slavs during several centuries, those few Sl words which supposedly had first entered into Rm with *u* were replaced by more modern Sl forms with *y* and, later, with *i* (On such substitutions see 10,9). As for native Rm *y* (spelled *î*), it arose as a rule from *a* before a nasal consonant, e.g. *cîmp* 'field' < La *campum*. The chronology of this change is uncertain but it plainly took place after the first Sl-Rm contacts, since the change affected also some words of Sl origin, e.g. *jupîn* 'lord, boss' < *županъ*, a dignitary, *stînă* 'fenced pasture' < *stanъ* 'camp', *smîntînă* ('sour)cream' < **sъme*N*tana*. Nothing precludes the assumption that Rm *y* developed more or less simultaneously with the rise of *y* in Sl. If so, this would be one more parallel development of Sl and Rm: though from different sources (Sl $\bar{u}_1$, Rm *a* followed by N) Sl and Rm developed the same characteristic vowel. There is however no positive proof that the Sl and Rm developments were really reciprocally influenced or even coincident in time.

The time of the change $\bar{u}_1 > y$ in Sl as ascertained by the above examination of loan words is in full agreement with the relative chronology. In the sequence of Sl sound changes the rise of *y* was preceded by (1) monophthongization of *u*-diphthongs (sixth – early seventh century) and (2) the third palatalization of velars (seventh – ninth cent.). It was followed by (3) the change of $_o\bar{a}$ into *a* and $_o\breve{a}$ into *o* (See section 8) and (4) the abolition of *r* and *l*-diphthongs (See 27,1). All this again may be easily ascertained on the material of place-names and loan words:

(1) In the oldest stratum of Sn and SC place-names of Rom origin $\bar{u}$ is rendered as *y* (> *i*) but *au* is represented by *av*, e.g. *Lavca* ~ *Lavsa*, an island in the Kornat archipelago, from La (*Lapides*) *lausiae* 'shale'[4].

(2) There are Sl place-names in German with no third palatalization carried out yet; they still reflect $\bar{u}_1$ as *u* (e.g. **rūbinīk$_o$ā*, now *Ramingbach*). But in those which reflect *y*, i.e. with *ui* or *i*, the third palatalization is also reflected (e.g. **viustritz* > *Faistritz*, both examples cited in section 4). On the other hand, it is important to emphasize that the third palatalization was still active and binding when the change $\bar{u}_1 > y$ ceased operating as shown by, e.g., P *Grudziądz*, city-name (Cited in detail in 23,9).

(3) Among the examples cited above a great many show that when $\bar{u}_1$ became *y*, *o* and *a* in their modern distribution were not yet distinguished. Cf. SC *Olib* < La *allūvio*, SC *Postire* < La *pastūra*, Gr Καρύτια < **k$_o$aryt$_o$a*, etc.

(4) Examples will be given in 27, 14.

5. Conditions and effects. The loss of $\bar{u}_1$ was the first in a series of reshapings which the vocalic system of CS underwent after the monophthongization of *u*-, *i*-, and nasal diphthongs. The ultimate reason for these reshapings was the assymetrical character of the system of vowels and its blatant discrepancy with

[4] The possible exception is *Ptuj*, a city in NE Slovenia, from *Poetouio*. The city probably was seized by the Slavs at a very early date, before their large scale Balkan invasion started.

the system of vowel alternations as analyzed in 19,8 and 20,7. The triple oppositions

$$\hat{i} < \begin{matrix} \hat{u} \\ \hat{u}_2, \end{matrix} \qquad \acute{i} < \begin{matrix} \acute{u} \\ \acute{u}_2 \end{matrix}$$

were unique in the system, which otherwise was based on oppositional pairs. Moreover, they had no counterparts in the short vowels: $\breve{i}$ and $\breve{u}$ had no $^{+}\breve{i}_2$ and $^{+}\breve{u}_2$. Under these circumstances a change was imminent, the question being only whether it would affect $\bar{u}_1$ or $\bar{u}_2$. That it happened to be $\bar{u}_1$ could possibly have been motivated by the system of vocalic phonemes of the time, but one is prone to ascribe more importance to the purely phonetic characteristics of $\bar{u}_1$ as compared to $\bar{u}_2$; an external factor is also to be taken into consideration.

The system of vowels before the change $\bar{u}_1 > y$, as presented in 20,7, was:

$$\begin{matrix} \breve{i} & & & \breve{u} & & & & \\ \hat{i} & \acute{i} & & \hat{u} & \acute{u} & & \hat{u}_2 & \acute{u}_2 \\ {}_e\breve{a} & {}_e\hat{a} & {}_e\acute{a} & {}_o\breve{a} & {}_o\hat{a} & {}_o\acute{a} & & \end{matrix}$$

It is $\bar{u}_2$ which was put aside in this table because it was a newcomer in the system. But it is possible that it soon exchanged places with $\bar{u}_1$. This is possible because $\bar{u}_2$ could have been closer to $\breve{u}$ phonetically; and because in the vowel alternations of the *u*-series, in which the original scheme

$$eu \;:\; ou \;:\; \breve{u} \;:\; \bar{u}$$

by that time was replaced by

$$\bar{u}_2 \;:\; \bar{u}_2 \;:\; \breve{u} \;:\; \bar{u}_1,$$

the part played by $\bar{u}_2$ was more important than that of $\bar{u}_1$. If so, the "upper floor" of the table became

$$\begin{matrix} \breve{i} & \breve{u} & \\ \hat{i} & \hat{u}_2 & \hat{u}_1 \\ \acute{i} & \acute{u}_2 & \acute{u}_1 \end{matrix}$$

putting $\bar{u}_1$ outside and making it more liable to change.

These could have been the phonemic prerequisits for the change $\bar{u}_1 < y$. More tangibly, because of its back articulation $\bar{u}_1$ could more easily lose its rounding and still preserve its identity. This was the phonetic condition for the change $\bar{u}_1 > y$. It must be added that precisely such a vowel, with an articulation quite far back and no rounding at all was typical of Tu languages of the time[5]. Needless to say, at that time the Slavs were in extremely close contacts with various Tu peoples and tribes, being a spearhead in the Avar military campaigns of the sixth – eighth centuries, in touch with the Khozars since the mid-seventh century and with the Bulgars since about the same time. Sl-Tu bilinguality of varying scope and extent should have been not uncommon in this historical situation.

Granted the pressure of the phonemic system for a change of either $\bar{u}_1$ or

[5] It is preserved in all the Tu languages of our day, except Uzbek and Uigur, where it coalesced with *i* in a relatively recent time.

$\bar{u}_2$ and the impact of Sl-Tu contacts (with partial articulatory proximity, in terms of tongue position, of $\bar{u}_1$ to the Tu "*y*" [ɪ]), the loss of rounding in $\bar{u}_1$ becomes understandable. This loss is tantamount to the change $\bar{u}_1 > y$.

It may be mentioned at this point that Sl of the time accepted several loan words of Tu origin with *y*. Some of them are attested in OCS, such as *synъ* 'tower', *bylja* 'superior'.

The shift $\bar{u}_1 > y$ did not change its odd position in the system of vowels. At that time it became:

$\breve{\bar{i}}$	$\breve{\bar{u}}$	$\bar{y}$
${}_{e}\breve{\bar{a}}$	${}_{o}\breve{\bar{a}}$	
(ę	ǫ)	
${}_{e}ar$	${}_{o}ar$	
${}_{e}al$	${}_{o}al$,	

where $\bar{u}$ goes back to u_2 and ${}_{e}ar$, ${}_{o}ar$, ${}_{e}al$, ${}_{o}al$ are the only remnants of the old (IE) well developed system of diphthongs. In fact, the odd position of *y* became a lasting problem for the phonemic systems of many Sl languages and still is for some of them (See 34,3). This vowel soon started being attracted to $\bar{i}$, for phonetic reasons (basically similar lip articulation) and for the symmetry of their role in vowel alternations: both represented the new lengthened grade. Although the alternations of vowels by that time were fairly unproductive the new lengthened grade was comparatively more alive than other grades, being used as a productive device in the derivation of imperfective verbs (See 23,12).

That in the disintegrating CS *y* was not sufficiently fitted into the system of vowels is one more proof that its rise, though rooted in the requirements of the phonemic system, was to a certain extent the result of external influences. Only if considered as just a transition toward $\bar{i}$, phonemically or both phonetically and phonemically, the change $\bar{u}_1 > y$ was fully justified from the point of view of Sl as a system.

With all the inadequacies involved, the change $\bar{u}_1 > y$ produced a chain reaction in the Sl vowel system. Delabialization as a principle was to be expanded to ${}_{o}\bar{a}$. The status of $\breve{u}$ and $\breve{i}$ was loosened and a complete reshaping of the whole system of vowels followed. On the other hand, introduction of *y*, which appeared only as a long vowel with no short counterpart, started to undermine the system of Sl quantity, which also led eventually to drastic changes. Of all these shifts to come, the closest in time and the most similar in procedure was the delabialization of ${}_{o}\bar{a}$. But there is one more marginal problem connected immediately with the rise of *y*, to be examined in the next section.

6. Problem of *y* and *i* from *o* in loan words. A local (dialectal) phenomenon in the disintegrating CS was the rendition of Rom (on the Balkan peninsula) *o* as $\bar{u}_1$ which consistently gave *y* and then *i* in Sn, SC, M, and Bg. This applies to stressed as well as to unstressed *o*, but apparently in not exactly the same areas. Rendition of unstressed *o* as $\bar{u} > y$ characterizes Dalmatia and the adjacent part of the littoral. Cf. OSC *Pilotъ*, place-name in Albania, < VLa *Polatum*, SC (Dubrovnik) *dìvōna* 'custom' < Dalm.-Rom. *dovana*, SC (Kotor) *pìžno* 'stone bench' < *podiolum*. This substitution was possible because of a narrowing of unstressed *o* typical

of Rom in these provinces. Possibly it points to an early broadening of *ŭ* (> ъ) in Sl of the area so that *ŭ* which otherwise was a substitute for Rom unstressed *o* could no longer be used in this function.

A broader area characterizes the rendition of VLa *ọ* (long or stressed) as $\bar{u}_1$ (> *y* > *i*). It is represented by examples from various parts of the Balkan peninsula, e.g. SC *Sòlīn*, place-name (Dalmatia) < La *Salōn(a)*, SC *Nòrīn*, stream-name (Dalmatia) < La *Naron(a)*, *Stupin*, place-name (Dalmatia), recorded as Στόλπον, Sn *Krmin*, city-name (N Italy, province of Gorizia) < *Cormones* (It *Cormons*), MBg *Bədin*, city-name (now *Vidin*) < *Bononia* (Ce *Bodonia*), SC *Nîn*, place-name (Dalmatia) < *Aenona*, etc.

It is supposedly the same situation which is found in OCS *pastyrь* 'shepherd', P *pasterz*, LS, US *pastyŕ*, Sk *pastier*, Cz *pastýř*, Sn *pastír*, Bg *pástir* if borrowed from La *pāstōrem*.

One could apply the same explanation to the SSl forms of two more words: Sn, SC *Rîm* 'Rome', M, Bg *Rim* < La *Rōma* (or Go *Rūma*) and Sn *kríž* 'cross', SC *krîž* < Rom (Friulan) **croge* (< La *crucem*). Yet the forms of these two words in other Sl languages which did not merge *y* and *i* exhibit *i*, not the expected *y*: R *Rim*, P *krzyż*, etc. (cited in full in 18, 2). One might assume, then, that the words first were borrowed by the westernmost SSl dialects, which had lost the distinction between *y* and *i* very early, before the middle of the ninth century; the words then came to the other Sl dialects with *i*, not *y*. Such an explanation however, is, not quite satisfactory chronologically: it presupposes an accumulation of rapid phonetic changes in a short period of time in the (unidentified) SWSl dialects (La *Rōma* > Sl **$R\bar{u}_1m$-* > **Rym-* > *Rim-*) and gives little time to the spread of the words to other Slavs. Therefore a different explanation is preferable, one which would connect the peculiar developments in these two words with the first delabialization of rounded vowels, as suggested in 18, 2.

7. Delabialization of ₒā. Soon after the delabialization of $\bar{u}_1$ into *y*, ₒ*ā* was delabialized into *ā*. While discussing the coalescence of IE *ŏ̄* and *ă̄* in early CS it was shown how long ₒ*ă̄*, the product of the merger, existed. The chronology of the loss of ₒ*a* was established there and supporting data in the form of loan words and toponyms were cited. The following is intended to supplement and detail a little more what was said there, and is to be read in connection with the material in chapter 10.

8. Chronology. The time of the delabialization of ₒ*ā* as shown in 10, 5 was the middle of the ninth century. Here several additional examples will be given to show that even in the loan words which penetrated into CS at the time of its dissolution Sl indiscriminately rendered both foreign *ŏ* and *ă* as ₒ*a*, reflected in the later Sl languages as *o*; foreign *ō* and *ā* as ₒ*ā* reflected later as *a*.

Borrowings from Fi: OR *Vodь*, a Finnish tribe < Vot *Vad'd'a*;

NR *tórbat* 'drive fish with sticks', OR *torobnaja lovlja* 'fishing with sticks' < Kar *tarboin* 'stick for stirring'.

Borrowings from OSw: OR *Rogvolodъ*, personal name < ON *Ragnvaldr*;

NR (Archangel, Vologda) *kodól* 'fetters', U *kodóla* 'rope, cable' < ON *kađall*, OSw *kadhal*;

OR *Donь* 'Denmark' < ON *danir* 'Danes'.

Borrowings from OHG: R, Br, U *páva* 'peahen', LS, US *paw*, Sk, Cz *páv* < OHG *pfâwo*;

U *stodóla* ~ *stodólja* 'sty', P *stodola*, Cz *stodola* < OHG *stadal*;
RChSl *opica* 'ape', OP *opica*, Cz *opice*, Sn *ôpica*, SC *ȍpica* < OHG *affo*.
On the other hand, OHG *ō* is rendered as *a*: P *klaszter* 'cloister', Sk *kláštor*, Cz *klašter* < OHG *klōstar*. See also P *konew* 'can', *komin* 'chimney' attested in MHG but borrowed from OHG.

US *pónoj* 'pan', Sn *pónev* go back to OHG *pfanna* 'pan'. A more recent borrowing of the same word is found in U *pánva*, P *panew*, LS *panej*, Cz *pánev*, SC *pànica*, Bg *paníca* 'dish'.

Two layers are also visible in the borrowing from MGr σατανάς 'Satan'. In OCS and RChSl the older form *sotona* is well attested; soon it was replaced by the new one, closer to Gr: R, Br, U *sataná*;

MGr φανάρι(ο)ν 'lantern' is rendered in OR as *fonarъ*, R *fonár'*. In both instances stressed *a* was interpreted as length; correspondingly it appears in the later Sl forms as *a*.

In borrowings from Tu chronology is for the most part difficult to establish, as in R, U *továr* 'wares', P *towar*, Sk, Cz *tovar*, Sn *tóvor* 'load', SC *tòvar*, M *tovar*, Bg *tovăr*, going back to a word represented by Osman and Chagatay *tavar* 'goods, cattle, property', Mong *tawar*; or R, Br, U, Sk, Cz, Bg *slon* 'elephant', P, US *słoń*, LS *słon*, Sn *slòn*, SC *slȍn*, going back to Tu (e.g. Osman) *aslan* 'lion'. But in the case of the personal name *Boris* which stems from Mong *bogori* 'small' the borrowing is hardly older than the mid-ninth century, when it is attested in Byzantine sources as Βόγορις ~ Βορίσης. It is also interesting that Proto-Bulgar, to judge by inscriptions, followed Sl in its change of ($_o$)*ă* into *ŏ*: βαιάνος is reflected as βοιαν . . . (Inscription of Pliska), βαγατουρ as βογοτορ (Inscription of Khan Malamir, 831–36), etc.

Certain borrowings provide clues for the relative chronology of the Sl sound changes. E.g. SC *Sutlovreč*, town-name in Istria < Rom *Sancto Laurentio* shows that $_o$*a* still existed after the monophthongization of *u*-diphthongs (*au* did not become *u*!). SC *Košljun*, island-name, < Rom *Castellione* shows that $_o$*a* also existed after $\bar{u}_1$ changed into *y*. More examples of this type are given in section 4. The same relative chronology may be stated for the NSl (Proto-NR) dialects: OR *tiunъ* 'manager, treasurer' from ON *þjónn* 'servant' no doubt was borrowed after $\bar{u}_1$ yielded *y*; since it was borrowed about the same time as *Rogvolodъ* and other words quoted above it is evident that $_o$*a* still existed after *y* had developed.

The number of examples may be augmented. In terms of both relative and absolute chronology they confirm the late date of the change $_o$*ā* > *ā* (and $_o$*ă* > *ŏ*).

9. Rise of *ŏ*. As anticipated by the examples cited in section 8, the delabialization of $_o$*ā* into *ā* caused a change of its short counterpart, $_o$*ă*. With the rise of *ā* from $_o$*ā* the complex character of $_o$*ă* lost its principal motivation. By a typical act of polarization $_o$*a* assimilated its second component to its first and became *o*, thus preserving its labialization, so that the second delabialization remained limited to long vowels. This development was also buttressed phonetically. While short vowels had no opposition in pitch, the contour of

their intonation was falling, a fact that contributed to the prominence of the first component in ${}_{o}\breve{a}$. See 2,6 and 2,14[6].

No difference in the chronology of the two changes of ${}_{o}\breve{\bar{a}}$, into $\bar{a}$ and $\breve{o}$, may be discovered in all the examples available, so that one may assume that the change ${}_{o}\breve{a} > \breve{o}$ was by and large a concomitant development of ${}_{o}\bar{a} > \bar{a}$. In the development of a word of the type $*m_{o}\bar{a}sl_{o}\breve{a}$ 'butter' there hardly was any lasting stage $*m\bar{a}sl_{o}\breve{a}$. A virtually simultaneous change in both syllables, yielding the form *maslo* is to be assumed.

10. Dialectal peculiarities in the rise of $\breve{o}$: *akan'e*. In one group of Sl dialects the change ${}_{o}\breve{a} > \breve{o}$ occurred only under stress, while in unstressed syllables ${}_{o}\breve{a}$ followed the development of ${}_{o}\bar{a}$ and became *a*. This dialectal group lay in what now is NCe Belorussia and SCe Russia. Conventionally, it may be called the Polock-Rjazan' group of dialects, referring to the main urban centers of the area in the early historical period. This was the beginning of Br and R (SR) *akan'e*. To use the examples of the preceding section, $*m_{o}\bar{a}sl_{o}\breve{a}$ yielded in these dialects not [máslo] but [másla]. Thus the new phoneme *o* was admitted in stressed syllables only, while *a* could occur in both stressed and unstressed syllables.

This original type of *akan'e* still preserved in Ce Belorussia and as a scattered residual in the Rjazan' area is called in R and Br dialectology strong *akan'e*. It has *a* consistently for all unstressed ${}_{o}a$. Later, under the influence of a growing reduction of unstressed vowels and other factors, it changed in many areas into other, more complicated types of *akan'e*: dissimilative, moderate, assimilative, etc. Their characterization belongs to the histories of R and Br. All of them are deducible from strong *akan'e*.

In the extant texts undeniable traces of *akan'e* appear later, mostly since the fourteenth century. This made most R linguists insist that *akan'e* arose at that time. Yet it does not fit in the framework of sound changes through which R passed at that time and it was justly recognized as a phenomenon of the ninth – tenth century by Meillet, Mikkola, Vaillant, Unbegaun, Stang *et al.* The late appearance of traces of *akan'e* in writing is due partly to the scarcity of early texts extant from the area of Polock – Rjazan' but first of all to the pressure of the generally accepted system of spelling founded on OCS tradition, consecrated by the church and supported, with respect to *akan'e*, by the live pronunciation habits of the two main cultural and political centers of the country, Kiev and Novgorod, where *akan'e* was unknown. It is not accidental that *akan'e* found its way into writing only after the decline of these centers. Only in words in which no spelling tradition existed could *akan'e* break through into written

[6] In the words (OCS) *agnę* 'lamb' and *(j)arьmъ* 'yoke' other IE languages have $\breve{a}$ whose expected Sl counterpart is *o*. It is unclear whether one is dealing here with a secondary lengthening of the vowel in CS, for some unknown reasons, or whether there were some peculiarities in the development of ${}_{o}\breve{a}$ in these words (perhaps due to extra-Sl influences). In (SChSl) *jablъko* 'apple', (OR) *jazьno* 'leather' this peculiar development is shared with Li (See 6,6).

texts earlier. And it is the name of one of the two most important towns of the area which bears witness to the early presence of *akan'e*. *Rjazan'* actually is an historically incorrect form. There are two competing etymologies of the name, one deducing it from the personal name *Rězanъ* (literally 'cut from the mother's womb'), another, more convincing, from Mordovian *er'z'an'* 'Mordovian'. In either case, however, the historically correct form should be *Rezanь* ~ *Rězanь* (also known from OR texts). The form with *a* reflects *akan'e*[7].

A special problem is whether *akan'e* in its original form of strong *akan'e* is genetically tied in with the influence of the Balt languages or even resulted directly from a Balt substratum in N and Ce Belorussia. That such a substratum existed is assured by the presence of river-names of Balt origin in the upper and middle reaches of the Dnieper. The distribution of *o* and *a* in Li and Le, as shown in 10,2, is to a certain extent the reverse of that in Sl: in Sl the IE ō and ā had coalesced in $_{o}$ā which yielded ā; IE ŏ, ă had coalesced in $_{o}$ă which basically gave ŏ. In Li and Le it was IE ā that gave ō (Le ā) while IE ŏ, ă coalesced into ă (The reflexes of IE ō are *uo* in Le while in Li partly *uo*, partly ō, so that they are rather out of the game in the possible interplay with Sl). Schematically:

IE ă	Sl ŏ	Li ă	Le ă
ŏ	ŏ	ă	ă
ā	ā	ō	ā

The framed part of the table demonstrates that newly formed Sl *o* constantly had *a* as its counterpart in Balt. Under the conditions of a Balt substratum it is possible then that Sl *o* while asserting itself in a strong position, i.e. under stress, yielded to the pressure of the substratum speech habits in the weak position, i.e. unstressed, and gave way to ă.

In this connection, it is interesting to note that in ELe dialects there are deviations of the opposite character, which may be ascribed to a Sl influence. Namely, in these dialects ă changed into *o*, which is a Sl rather than Balt reflex (common and standard Le *a*). It is not impossible that as a counterpart to Br *akan'e* arisen in contacts with Balt, ELe has a peculiar "*okan'e*" brought about by the impact of the Slavs.

As tempting as these confrontations are they can hardly be definitively proved or disproved, although the fact is striking that the historical eastern boundary of the Balt tribes coincides with the isogloss of strong *akan'e* (Trubačev). The Balt origin of Br and SR *akan'e* is to remain a hypothesis, though highly plausible. Accepting or not accepting this point of view however does not change the acceptance of the main issue, that *akan'e* arose in the Br area in prehistoric time and was a dialectal deviation from the otherwise common Sl development $_{o}$ă > *o*[8].

[7] On how *e* and ě were involved in *akan'e* see 28,3.

[8] A broader pronunciation of unstressed *o* as compared with *o* under stress, an important prerequisite for *akan'e*, was not limited to the area of *akan'e* proper. Sn distinguishes two stressed *o*-type vowels: narrow *o* (ọ) under the original stress and open *o* (*o*) under the shifted stress, i.e. original unstressed *o*. To what extent this distinction was CS (if at all) deserves further study.

11. Conditions and effects. The split of ${}_{o}\breve{a}$ into $\bar{a}$ and $\breve{o}$ was the first event in the sequence of reactions triggered by the delabialization of $\bar{u}_1$. Begun as a simple continuation of the wave of delabialization ushered in by the rise of y, it modified the entire system of vowels and was to create repercussions in several directions.

The two sound changes, $\bar{u}_1 > y$ and ${}_{o}\bar{a} > \bar{a}$, as well as the alteration ${}_{o}\breve{a} > \breve{o}$ had one feature in common: transformation of complex vowels (on-glide followed by qualitatively heterogeneous core[9]) into simple vowels. This restructuring of vowels, possibly introduced first in nasal vowels, was fraught with consequences. By eliminating the ascending type of vowels it prepared the grounds for renunciation of rising sonority as a general principle of syllable structure and enabled the introduction in near future of syllables of other types. It also paved the way for changes in quantity and pitch.

As shown in section 5, y was the first vowel in the Sl system of the time to have no opposition in quantity, and this caused the first cleavage in the so far almost perfect symmetry between the long and the short vowels. With the rise of $\bar{a}$, only long[10], and $\breve{o}$, only short, one can no longer speak of such a symmetry. The system of vowels was split into two different subsystems, that of long vowels and that of short vowels:

$$\begin{array}{ccccccc} \bar{\imath} & \bar{u} & \bar{y} & \text{vs.} & \breve{\imath} & \breve{u} \\ {}_{e}\bar{a} & \bar{a} & & & {}_{e}\breve{a} & \breve{o}, \end{array}$$

with nasal vowels and sonant "diphthongs", none of which constituted separate phonemes, set apart (See 22,2):

$$\begin{array}{cc} ę & ǫ \\ {}_{e}ar & {}_{o}ar \\ {}_{e}al & {}_{o}al. \end{array}$$

The complex character of ${}_{e}\bar{a}$ and ${}_{e}\breve{a}$, the two remaining vowels of the old type, unsupported any longer by the same type of structure in other vowels, was to undergo a simplification. In the case of ${}_{e}\breve{a}$, which now had no common components with o, this probably occurred immediately or at least soon after in most dialects (See 28,1); in the case of ${}_{e}\bar{a}$ ($\check{e}$), which was closer to $\bar{a}$, it became a problem which every Sl language had to cope with in its own, often complicated way. When ${}_{e}\breve{a}$ changed into e (basically, for deviations see 28,3) its ties with ${}_{e}\bar{a}$ were severed and the domain of opposition in quantity dwindled essentially to those between $\breve{\imath}$ and $\bar{\imath}$, and $\breve{u}$ and $\bar{u}$, while in other cases the feature of length became only supplemental to oppositions in quality, that is it grew redundant. The ultimate result of these shifts was that the very principle of quantity as a phonemic feature of Sl vowels was seriously endangered.

[9] In $\bar{u}_1$ the core did not differ from the on-glide qualitatively but the development of prothesis bears witness of its ascending ${}_{u}u$-type structure. See 16,8.

[10] It could be short in the dialects with *akan'e*. But it was limited there to unstressed syllables, while in the stressed syllables the same disparity evolved as in all the other dialects. But it is more plausible that by that time the opposition in quantity in unstressed syllables was lost entirely in the dialects with *akan'e* (See 32,8).

There were more discrepancies between the subsystems of long and short vowels. Opposition in labialization became the organizing principle in the latter. In the former, on the contrary, it was marginal. Only $\bar{u}$ was a rounded vowel while on the "lower floor" (${}_e\bar{a} - \bar{a}$) there were no rounded vowels at all. Thus the cleft between the two subsystems threatened to become a gulf. Further shifts were to be expected either toward abolition of one of the two subsystems or toward restoring some degree of balance between them.

Finally, the split of ${}_o a$ into $\bar{a}$ and $\bar{o}$ contributed to further deterioration of the system of vowel alternations which was shattered and atomized by the preceding vowel changes, particularly the monophthongization of descending diphthongs. While the latter greatly destroyed coherence in alternations of both *u* and *i*-diphthongal series, introducing vowels which had no common components with other alternants in the series (e.g. ${}_e\bar{a}$ as a reflex of ${}_o ai$ in the *i*-series) or making different grades identical (e.g. $\bar{\imath} < {}_e ai$ and $\bar{\imath}$ in *i*-series, destroying the difference between *e*-grade and the new lengthened grade; $\bar{u}_2 < {}_e au$, ${}_o au$ in *u*-series, obliterating the difference between *e* and *o*-grades), the split of ${}_o a$ delivered a blow to the original monophthong series by destroying the opposition in quantity between the normal and the long grades. The original

$$e : o : \bar{e} : \bar{o} : \#$$

became now

$${}_e a : o : {}_e\bar{a} : \bar{a} : \#,$$

an amorphous pile of alternants devoid of an organizing principle. This also applies to the *er* and *el*-series, insofar as it concerns their vowels. Thus, all the alternation series were brought more and more to a systemless agglomeration of related forms and words with no productive and visible unifying rules of vowel distribution.

To summarize, the split of ${}_o a$ put the system of vowels out of balance, splitting it into two unsymmetrical subsystems, impaired oppositions in quantity and contributed to further decline of the system of vowel alternations; together with the change $\bar{u}_1 > y$ it was an important step in the restructuring of the ascending vowels.

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27. ELIMINATION OF *R*- AND *L*-DIPHTHONGS

1. General statement. 2. Areas of diverse developments. 3. Examples of ORC groups and their treatments. 4. Cases of deviation in the treatment of ORC groups. 5. Chronology of the metathesis ORC > ROC. 6. Problem of transition from ORC to ROC. 7. Problem of metathesis in *ū*RC, *ī*RC groups. 8. Metathesis of other initial groups. 9. Word-internal sonant diphthongs (CORC type). Examples. 10. Peculiarities in the development of $C_{e}al C$ groups. 11. Conservation of unchanged CORC groups. 12. Problem of transition from CORC groups to the new configurations. 13. Assessment of arguments in favor of an anaptyctic vowel in SCentral and P-So areas. 14. Chronology. 15. Conditions and effects. Historical background.

1. The last representatives of the IE diphthongal series, the functional diphthongs $_{o}ar$, $_{e}ar$, $_{o}al$, $_{e}al$ that survived till the end of CS, were eliminated in the Sl dialects into which CS disintegrated. They were treated differently in word-initial position and in the word-internal position. Using C for any consonant, R for *r* or *l*, O for $_{o}a$ (later *o* or *a*) or $_{e}a$ we shall denote the first case as ORC, the second as CORC (Traditionally *t* was used as a symbol of any consonant, and these were spoken of as *ort*-, *olt*-, *ert*-, *elt*-, and *tort*, *tolt*, *tert*, *telt* groups). The development of ORC was twofold according to dialect, while CORC developed in four different ways.

2. Areas of diverse developments. The boundaries of the two developments of ORC overlap with those of CORC, so that the latter cannot be treated as subdivisions of the former.

In respect to the ORC treatments Sl may be divided into Southern and Northern areas, with the reservation however, that the S area in this case is broader than that of the languages traditionally called SSl: it covers not only the territories of Sn, SC, M, and Bg but also that of CeSk. In this area $_{o}a$RC > R*a*C[1].

The N area encompassed all other Sl languages. It is characterized by twofold reflexes of ORC depending on the pitch. Under RP the reflexes are the same as in the S area; under FP (unstressed included) the resulting vowel is *o*, not *a*: $_{o}a\acute{R}C > RaC$, $_{o}\hat{a}RC > RoC$. For certain deviations see section 4.

The four areas with non-identical treatment of CORC groups may be labeled South-Central, Polish-Sorbian, Western Baltic and Eastern (SCe, P-So, WB, E). In the SCe area, that of Sk, Cz, Sn, SC, M, and Bg, $C_{o}aRC$ gave CR*a*C and $C_{e}aRC$, CR*ě*C. In the E area (R, Br, U) $C_{o}aRC$ yielded C*o*R*o*C and $C_{e}aRC$, C*e*R*e*C; these forms with two vowels, one on each side of the sonant, are

[1] Non-capital letters are used to denote a specific phoneme.

traditionally called pleophonic, a term introduced by M. Maksymovyč. The P-So territory has CRoC from *CₒaRC* and CReC from CₑaRC. Finally, the WB area (Pb, Ka, the extinct dialects of N Germany) basically follows the P-So line but has a strong tendency not to apply its formula to the CₒarC type which then preserves the old order of the components and appears as C*ar*C, though no longer diphthongal, either functionally (since there are no other diphthongs to support the diphthongal status of the group) or phonetically (all vocalic prosodic features are concentrated on *a* and do not spread to *r*). Concerning certain deviations in Pb and particularly in Ka see section 11.

In the following sections (3–6) the ORC developments will be discussed, then the problem of the CORC reshaping (9–14).

3. Examples of ORC groups and their treatment. A) ₒ*a*ŔC groups (diphthongs with RP), as stated in section 2, yielded the same reflexes in all the Sl languages[2], e.g.:

RChSl *raměnъ* 'strong', OR *ramjanъ*, P *naremny*[3] 'violent', Cz *náramný*, Sn *rámeno* 'very' – Arm *arman* 'miracle', Gr ὄρμενος 'high', Alb *jerm* 'delirium', ON *jǫrmunr*, by-name of Odin, OEng *eormen-* 'big, strong';

R, U, Sn, Bg *rálo* 'plough', Br *rála*, P, LS, US *radlo*, Pb *rådlŭ* (radly), Sk *radlo*, Cz *rádlo*, SC *rȁlo* – Li *árklas* 'wooden plough', Le *ar̂kls* 'plough', Arm *araur*, Gr ἄροτρον, La *arātrum*, Ir *arathar*, ON *arðr*, To *āre*;

OR *lada* 'husband', U *ládo* 'beloved', SC *lȁda* 'wife', Bg *lado*, refrain in folk songs – Gr Ἄλτις 'sacred wood at Olympia', Go *alds* 'age, life';

OCS *lakati* 'starve', R *lakát'* 'lap, swill', P *laknąć* 'crave', Sk *lákat'*, Cz *lákati*, Sn *lákati*, SC *lȁkom* 'greedy', M *lakom* – Li *álkti* 'starve; demand', Le *al̂kt* 'thirst', OPr *alkīns* 'sober'.

Further examples are OCS *ramo* 'shoulder' – P *ramię*, OCS *lanita* 'cheek' – OCz *lanitva* 'jaw', OCS *lani* 'doe' – P *łani(a)*, SC *lȁbūd* 'swan' – P *łabiędź*, probably OCS *ratь* 'war, struggle' (no correspondences in NSl), possibly OCS *radъ* 'glad' – P *rad*.

B) ₒ*ȃ*RC groups (diphthongs with FP), as stated in section 2, had different reflexes in NSl (R*o*C) and SSl (R*a*C), e.g.:

OCS *rasti* 'grow', Sk *rast'*, Sn, SC *rásti*, M *raste*, Bg *rastá* vs. R, Br *rost* 'growth' (R spelling in the verb *rasti* is based on OCS), U *rostý* 'grow', P *rosnąć*, Pb *rüst* (rühst), LS, US *rosć*, Cz *růsti* – OI *ṛnóti* 'rise', Gr ὄρνῡμι 'rouse', La *orior* 'rise';

Sk *rakyta* 'willow tree' (also *rokyta*), Sn *rakîta*, SC *ràkita*, Bg *rakíta* vs. NR dial *rokíta* 'broom', U *rokýta* 'willow tree', P, LS *rokita*, Pb *rüt'ai̯tnă* (rühtjeitna) 'osier bush', US *rokot* 'willow tree', Cz *rokyta* – Le *ẽrcis* 'juniper', Gr ἄρκευθος;

Sk *(k)lani* 'last year', Sn *láni*, SC *lâni*, M *lani*, Bg *láni* vs. R dial, Cz *loni*, P, LS, US *loni* – OLa *ollī* 'then';

OCS *lakъtь* 'elbow', Sk *laket'*, Sn *lakât*, SC *lâkat*, M *lakot*, Bg *lákət* vs. R *lókot'*, Br *lókac'*, U *líkot'*, P *łokieć*, Pb *lüt'ét* (litgitt), LS *łokś*, US *łohć*, Cz *loket* – Li *alkūnė* 'elbow, corner, curve', Le *èlkuons* 'curve', OPr *alkunis*, Arm *oln*, Gr ὠλένη 'elbow', cf. also OI *aratníṣ* 'elbow', Gr ἄλαξ 'forearm', La *ulna* 'elbow, arm', Cym *elin* 'elbow', Go *aleina*.

Further examples are OCS *rabota* 'work' – U *robóta*, Sn *rȃl* 'field' – P *rola*, OCS *ravьnъ* 'even, equal' – Cz *rovný*, Sn *rážnj* 'spit' – P *rożen*, OCS *raz-* 'asunder' (prefix) – P *roz-*; SC *lâda* 'boat' – R *lódka*, R *los'* 'elk' (not represented in SSl), possibly

[2] The problem of chronological sequence in CORC developments and the split of ₒ*a* will be discussed in section 14.

[3] On confusion of *ra-* and *re-* in P see 11,8.

Sk *rázga* '(long) switch' – Br *rózha* 'rod'. Sk *kurnaz* 'boar' as well as OR (fifteenth century) *knoroz*, U dial (Hucul) *knóros* (Standard U *knur*), P *kiernoz* go back to two roots: **kŭrnŏ-* 'maimed' and **orz-*, cognate of Li *aržùs* 'passionate', Av *ərəzi* 'testicles' (du), Arm *orjik*, Gr ὄρχις, Alb *herdë*. In the heavily deformed Sl words the original distribution of *ro-* vs. *ra-* is still discernible.

c) ₑ*a*ŔC. The theoretically expected result would be R*ě*- but it is highly uncertain because of the lack of examples. The only example usually referred to, viz. OCS *rědъkъ* 'rare', R *rédkij*, Br *rědki*, U *ridkýj* , P *rzadki*, Pb *ŕótt'ə* (*rgôtga*, neut), LS, US *rědki*, Sk *riedky*, Cz *řídký*, Sn *rédek*, SC *rédak*, M *redok*, Bg *rjádək* as related to Li *eȓdvas* 'wide', *ìrti* 'come asunder', OI *árdati* 'scatter', Gr ἔρημος 'alone', To A *ārts* 'each', not to mention the rather loose semantic connection, differs in intonation: Sl points to the original RP, Li to FP. Another example may be OR *Rězanь* (~ *Rjazanь*), city-name, if it is borrowed from Mordovian *er'z'an'* 'Mordvinian' (See 26, 10).

d) ₑ*â*RC. The expected result would be SSl R*ě*- vs. NSl R*e*-, but again there are no reliable examples. The following are usually cited:

OCS *remenь* 'strap', R *remén'*, Br *rěmen'*, U *rémin'*, P *rzemień*, LS, US *rjemjeń*, Sk *remeň*, Cz *řemen*, Sn *rémen* (~ *jérmen*), SC *rèmēn*, M *remen*, Bg *remén* compared to Gr ἀραρίσκω 'attach', La *arma* 'armor';

OCS *retь* 'zeal', R *retívyj* 'zealous', U dial (W) *retýtysja* 'fight' compared to OI *ṛtíṣ* 'attack', Gr ἔρις 'strife';

R *lebedá* 'goosefoot', P *lebioda*, Cz *lebeda*, Sn *lebéda* compared to Alb *elb* 'barley', Gr ἀλφός 'white rash', La *albus* 'white', G *Elbe*, river-name[4].

The scarcity of examples is probably not accidental. It is doubtful if, in general, one can speak of initial ₑ*a*RC groups. Originally initial ₑ*a* in Sl of that time had prothetic *j-* (See 16, 4). Consequently, the rules for word-internal treatment of the (C)ₑ*a*RC groups should have operated in these cases. After undergoing metathesis **jₑard-* (as in OCS *rědъkъ*) should have had the form **jrěd-*; the attested form *rědъkъ*, etc., would have resulted from the loss of the initial *j*, which in itself is justifiable before a consonant. But in this case *ě* would be expected in OCS *remenь* and *retь* and their SSl counterparts. The situation can be salvaged only by rejecting the above etymologies for these two words, uncertain as they are in general. The ESl data necessitate the refutation of the other etymologies as well. As shown in section 12, ESl did not have metathesis in CORC groups but inserted a vowel after the sonant. Hence, **jₑard-* in ESl should have given *+jeredъkъ*, and not *rědъkъ*. Thus no metathesis of ₑ*a*RC groups is to be assumed for Sl and the etymologies quoted are to be revised.

R dial *remá* 'shrubs', Sn *rệšek* 'sowthistle' are etymologically even more obscure.

e) For ₒ*a*RC groups there are also numerous examples in place-names and a few in loan words. See section 5.

4. Cases of deviation in the treatment of ORC groups. There are a few deviations from the regular distribution of R*a*C ~ R*o*C forms in the individual Sl languages. These deviations are of two types: either R*a*C is found instead of R*o*C or vice versa; or else isolated forms occur without metathesis.

The deviations of the first type result from reciprocal influences and mixture of Sl languages. They are important rather as a testimony of Sl cultural interrelations. The earliest instances of this type recorded occur in OCS and Sk. Later on they are represented most profusely by OCS forms in R, e.g. R *lad'já* 'boat' from OCS (along with native R *lódka*).

[4] On forms with *o* in other Sl languages, of the type of SC *lobòda*, see 23,15.

In OCS one encounters several forms in *ro-* instead of the expected *ra-*: *robota* 'work' (Su; along with *rabota* in PS, ES, Su), *neroditi* 'neglect' (Zo, Mar, Su), *rozboinikъ* 'robber' (Su, along with *razboinikъ* in Zo, Mar, As, Cl, ES, Sa, Su) and a few more. The inter-Sl mixture is particularly evident in the forms of *$_o$*ârb-* 'slave, servant' reflecting the widespread slave trade among the Sl countries: OCS has both *rabъ* and *robъ* (Zo, Su); R, Br, U, P have *rab* from OCS and/or OBg instead of the expected indigenous +*rob*; conversely, Sn *ròb*, SC *rȍb*, M, Bg *rob* are borrowings from Cz *rob*, which crowded out the indigenous *rab*. With NSl slaves the word spread to Alb and Rm: *rob* 'slave'.

Mixture of forms is especially copious in Sk. The reason for this is that while CeSk has $_o$*â*RC > R*a*C the other Sk dialects have reflexes of the R*o*C type. Cz influence was an additional factor which contributed to the spread of R*o*C forms. As a result, one finds in CeSk such forms as *robit'* 'do', *rol'a* 'arable land', *rovný* 'straight', *roz-*, a prefix, *lod'* 'ship', *los* 'elk', although in CeSk dialects *ral'a* and *raz-* are also well known (the latter, e.g. in *rázvora* 'pole to lengthen cart', *razum* 'mind', etc.; cf. even in standard Sk *rázporok* 'rent, slit', *rázsocha* 'fork'), and more *ra*-forms have been preserved in place-names, conservative by nature, as, e.g., *Ravne* (Novohrad, Liptov), *Ráztoka* (Orava), *Rá(z)selie* (Trnava), etc. In Cz the abnormal forms, with *a* instead of *o*, are not so numerous; some are found in place-names: *Rasochy* (E of Prague, near Chlumec), *Rasošky* (NE of Prague, near Jaroměř), *Rastory* (S of Prague, near Písek).

More interesting from a phonological point of view are those words which display archaic forms, possibly from the time antecedent to the metathesis. Such forms are found in OCS as well as in Mo M and, to a lesser extent, Bg dialects. It is noteworthy that all these forms concern only one of the four groups which come under consideration, namely $_o$*al*C. In OCS one finds *alkati* (also spelled *alъkati*) 'starve' (Zo, Mar, As, PS, ES, Sa, Su) along with *lakati* (Zo, Ma, PS); *aldi(i)* 'boat' (Zo, Su) along with *ladi(i)* (Zo, Ma). The word *lani* 'doe', not represented in any form in OCS, is recorded many times in SChSl as *al(ъ)nii*, less often as *lani*.

That these forms were not artificial is evident from the presence of such forms in M and Bg dialects of our time. *Alné* 'young chamois' is attested in the Bg dialect of Tetevensko (NE of Sofia); *Alnéto*, a place-name with the same root, is found near Silistria (NE Bulgaria). SW M dialects (Struga, Ohrid, Prilep) have *altica* 'patch', cf. SC *làtica*. The etymology of the word is virtually unknown; what has been suggested so far is indicative rather of original (IE and CS) **lōt-* (Gr λωτός 'interwoven', Bret *louzr* < **lātro-* 'canvas filter'). If this etymology is correct M dial *altica* still shows that in M there was a period of competition between *al-* and *la-* forms, which also involved some forms with the original *la-*.

Attempts were made to explain away the *al*C forms as reborrowings from Rm (See section 11), but these forms rather are petrified relics. Some dialects on the outskirts of the Sl territory evidently had not yet carried out the metathesis of $_o$*al*C groups when they mingled with other dialects which by that time had completed the change. In the ensuing mixture some non-metathesized

forms survived. It is not impossible that the dialect of Constantine and Methodius was one of these and that the OCS forms with *al-* go back to the original texts as compiled by the brothers.

A rather peculiar development is observed in the same root as in SChSl *alnii*, Bg dial *alné* in R dialects of Vladimir – Kostroma area. The word appears here as *alyn'já* 'cow'. One may assume that here, too, the development of ₒ*al*C to *la*C was arrested and the form **aln'ja* preserved. Later an anaptyctic *y* was introduced between *l* and *n* in the cluster *lnj*, perhaps also under the influence of the suffix *-yn(i)* ~ *-yn(ja)* (See also section 12[5]). Needless to say, the dialects of this area also were for a long time on the border of Sl territory, so that lags in relation to the general development are quite plausible.

5. Chronology of the metathesis ORC > ROC. The substitutions in non-Sl place-names made by the Slavs at the time of their expansion in the sixth – eighth centuries show that metathesis in ORC groups took place after the settlement of the Slavs in the Balkans in the south, and after the first contacts with the Finns in the north. The data are fairly numerous. A few examples follow.

Sn *Labnica*, place-name in Eastern Styria, from Ce **Albanto-*;
SC *Rȁš(k)a*, river-name and name of a region in Serbia, from Ill *Arsia* (It *Arsa*, Etruscan *Arsius*);
SC *Labȅrija*, region in South Albania, from **Labanija* = Albania;
SC *Làbīn*, place-name in the areas of Pula and Split, from La *Albōna*;
SC *Rȁb*, island-name, from La *Arba*, Gr Ἄρβη;
Bg *Lom*, river-name, from La *Almus*, Gr Ἄλμος[6];
R *Ládoga*, lake-name, from Fi **aaldokas* 'undulating' (Cf. *aalto* 'wave'), cf. OSw *Aldeigjuborg*, place-name;
R *Lovat'*, river-name, from Fi *Alvatti(joki)*, cf. *alve* 'brood'.

On the other hand, a few Sl words borrowed into the neighboring languages at an early date reveal the old, i.e. non-metathesized forms, e.g.:

P *Łobino* ~ *Olbino*, place-name in Silesia, with the *ol*-form preserved in, and reborrowed from, German;

Gr sources have the Sl root *rad-* in the form *ard-* several times in personal and place-names, e.g Ἀρδαγαστός, name of a Sl chieftain in the Chronicle by Theophanes (810–14), corresponding to later Sl *Radogostъ*; Ἀρτοτίβα, place-name (in Acarnia), from **Radotiva*; Ἀρδαμέρι, place-name (in Langada), from **Radoměrjь*. The situation is complicated by the fact that this root seems to go back to a ROC form, and not ORC (AS *rót* 'glad, noble', etc., see section 3). If so, the same explanation could be applied to this fact as in section 4 to M dial *altica*: the Gr αρ-forms were probably borrowed when a general confusion

[5] This insertion is reminiscent of ъ in such OCS words as *alъkati*, etc.; it is possible that this ъ was not just a graphic convention; Pedersen saw reflexes of such an inserted ь in R *jarém* 'yoke', SC *járam*, Bg *jarém*, etc.
[6] *o* instead of the expected *a* may be due to folk etymology (BG *lomjá* 'break').

and interchangeability of *ra-* and *ar-* forms prevailed. The Veps place-name *Arškaht*, from Sl *Radogošča* would find the same explanation.

The inference from the data cited is that the metathesis of ORC groups occurred after the Sl settlement in the originally Fi, Germ,[7] Rom and Gr areas, i.e. after the sixth century in the south, and after the seventh in the north. More precision may be attained by an examination of loan words which entered into CS after the Christianization of the Slavs. They were treated by Sl in two different ways. The oldest underwent the usual metathesis, e.g.:

OCS *raka* 'shrine', R, Sn, Bg *ráka*, SC *ràka*, from Gr ἄρκα ~ La *arca* 'box';
OCS (KF) *rovanię* 'gift' (acc pl), from OHG **ar(a)vanī* 'gift'.
Cf. also OCS (Su) *raměnьskъ* 'Armenian'.

In words borrowed somewhat later no metathesis was carried out; the group *a*RC still not being tolerated, a vowel was inserted between the sonant and the consonant, e.g.:

OCS *olъtarjь* ~ *oltarjь* 'altar', from OHG *altāri* ~ La *altāre*;
OCS *orъganъ* 'instrument, musical instrument', from Gr ὄργανον.
Cf. also OR *Olьga*, personal name, from ON *(H)elga*.

These data lead to the conclusion that the ORC metathesis no longer operated in the late ninth century in Southern and Central Sl dialects. The date could have been somewhat later but only very little in the NE dialects.

6. Problem of transition from ORC to ROC. While the formula for metathesis of ORC groups is very simple, the problem of how it was phonetically materialized is controversial. Against a background of the Sl phonetic and phonemic system and the sound changes operating at the time, the following is the most likely manner of transition:

The first step toward metathesis should have been the loss of diphthongal status. In the case of "real" diphthongs consisting of a vowel + *u* or *i* and of nasal diphthongs this de-diphthongization as a rule (except for the few cases of metathesis) was at the same time a monophthongization: the two components merged into one. In the changes $_{o}au > u_2$, $_{e}au > ju_2$, $_{e}ai > i$ the final component prevailed; in $_{o}a$N, $_{e}a$N the nasal component "dissolved" into the oral, bestowing its nasal articulation on the latter. The common characteristic in all these cases was that the final component moving toward the beginning of the diphthong "conquered" the whole diphthong. In the "real" diphthongs the first component was entirely absorbed by the second; in the nasal diphthongs this was phonetically difficult because only the initial component was a full-fledged vowel; but the "conquest" still occurred: without absorbing the initial vowel of the diphthong the final component superimposed its own nasal character onto the vowel.

Neither of these two treatments was employed in the case of liquid diphthongs. The final sonants were not full-fledged vowels so that they could not absorb the

[7] Cf. Pb *Låbi* 'Elbe', US *Łobjo*, Cz *Labe* going back to **Albi(a)*.

initial vowel (For a possible exception in the WB dialectal group see section 12). Neither was a "sonantization" of the vowel possible, similar to nasalization in nasal diphthongs. Therefore, the "destruction" of a diphthong should have started with a mere shift in its pitch distribution. In point of fact, the main difference between, say, *or* as a functional diphthong, and *or* as a group of sounds vowel + resonant, is that in the first case the curve of the syllable pitch does not stop short at the boundary between *o* and *r*, as it would in a group vowel + consonant, but covers both as a unity. Such a situation still exists, e.g., in Li, as even the system of denotation shows: *árklas* 'plough' (with the pitch mark over *a*) but *ar̃gi* 'really' (with the pitch mark over *r*). No doubt this was the situation in CS as long as it had sonant diphthongs. Consequently, one may denote the CS form of, e.g., R *rálo* 'plough' as *$_{o}$*aŕdl*$_{o}$*a*, and that of R *rost* 'growth' as *$_{o}$*âr̂stu*. Thus transference of the whole pitch contour to the vowel alone meant, in fact, the end of R-diphthongs: *$_{o}$*árdl*$_{o}$*a*, *$_{o}$*ârstu*.

This transference could have caused and to a certain extent did cause concomitant changes in the character of the vowel. The concentration of the whole intonational contour on the vowel could easily have brought about lengthening of the vowel. It is quite obvious that in the S area this lengthening was general. Both *$_{o}$*aŕ(d)l*$_{o}$*a* and *$_{o}$*ârstu* became *$_{o}$*ār(d)l*$_{o}$*a* and *$_{o}$*ārstu*. Afterwards, like any $_{o}$*ā*, this yielded *a*: **arlo*, **arstu* > *ralo*, *rast*. That the lengthening did not depend on metathesis and in fact preceded the latter is clear from those OCS and other Sl forms which are attested without metathesis, as quoted in section 4: *alkati*, *aldi*(*i*), etc. All contain *a* which can only go back to $_{o}$*ā* (See 26,1).

In the N group the lengthening of the vowel seems to have occurred on a smaller scale; only under RP. Thus, *$_{o}$*aŕ(d)l*$_{o}$*a* > $_{o}$*ār(d)l*$_{o}$*a* but *$_{o}$*ârstu* preserved the brevity of its vowel (i.e. its FP became extraphonemic, so that a better formula would be *$_{o}$*ărstŭ*). This is reflected in the later difference in the reflexes: *ra*(*d*)*lo* vs. *rost*. Such a discrimination is justifiable phonetically if one considers that in the case of RP the summit of the pitch curve which originally marked the liquid was shifted onto the vowel, while in the case of FP the summit had been and remained on the first component, i.e. the vowel. Thus in the first case the vowel was reinforced: the prerequisites for lengthening were much stronger under RP[8]. Schematically, the development in NSl was this:

*$_{o}$*aŕdl*$_{o}$*a* > *$_{o}$*ár(d)l*$_{o}$*a* > **ár(d)lo* > *rá(d)lo*
vs. *$_{o}$*ârstu* > *$_{o}$*ărstu* > **ŏrstu* > *rostъ*.

The de-diphthongization of the initial liquid diphthongs, i.e. the concentration of the whole pitch contour on the vowel alone, was CS; the concomitant lengthening of the vowel was also common Sl in the case of RP.

The preceding demonstrates that the change of ORC groups called by tradition metathesis actually consisted of at least two or three changes: de-diphthong-

[8] The lack of lengthening under FP in NSl may also be connected with the fact that in this dialectal group presumably lengths under FP were generally shortened (See 32,4). Yet the difference in treatment of ORC groups under RP and FP is explainable from their own development as shown in this section.

ization of the liquid diphthongs; lengthening of the vowel (where it occurred); and the metathesis proper. The problem faced by Sl after the de-diphthongization (and lengthening) was one of handling a new type of consonantal clusters: R + C, in which R was a regular consonant. The scheme of a word of the type OCS *rastъ* originally was **ₒâr‖stu*. Now it became *ₒâ‖rstu*, with the liquid no more a part of the diphthong. This challenge of the new consonantal clusters was met by metathesis.

How this metathesis proceeded is a special problem. Since such a metathesis could hardly have been a sudden change, attempts were made to reconstruct the intermediary stages. It is usually assumed, if one does not go into the minor nuances of various theories, that at first some reduced anaptyctic vowel was inserted after R: ORC > ORəC. This vowel, then, assumed the coloration of the preceding full-fledged vowel, becoming a kind of *o*R°C, *a*R^{a}C, etc. Then gradually the initial vowel weakened, transferring its functions to the second or, in another variant, the two vowels exchanged places, until eventually it was only the second vowel in either case which remained.

In theory this scheme is acceptable and it may be backed by the actual principles of the Sl sound system of the time. Insertion of an anaptyctic vowel after R is motivated by the fact that when R ceased to be a part of the diphthong it became a consonant; and Sl, still a language of the "vocalic" type, had a tendency to shun consonantal clusters. The assimilation of the inserted vowel to the preceding one agrees perfectly with the tendency toward disyllabic vowel harmony which, though never powerful, operated in certain cases in the Sl of that time. Loss of the strongly reduced initial vowel is also possible if it is remembered that virtually all the words ended in a vowel, so that except in sentence-initial position the strongly reduced initial vowel could easily merge with the final vowel of the preceding word, become optional and finally be omitted for good, in all positions.

All this being quite possible, it still remains sheer speculation because there is not a single unambiguous piece of evidence in favor of this hypothesis. No attested Sl dialect preserves or ever did preserve any form with anaptyctic vowel of an *o* or *a*-type, none shows any vacillation between the types with and without the assumed initial vowel. There are forms of the type *rost*, *rast* and (not attested specifically in this root) **arst*, but none of the type ⁺*orost* or ⁺ *arast*. Forms with ъ after the sonant as spelled occasionally in OCS and in some later Cyrillic manuscripts, of the type *alъkati* in Sl words or *alъtarjь* in loan words, belong to a later period. There is no certainty that at the time when the de-diphthongization of ORC groups began Sl had ъ as a reduced vowel (See 29,5). But even if it did there is no reason to suppose that ъ was a regularly used anaptyctic vowel between the sonant and the consonant in all the "de-diphthongized" ORC groups or, furthermore, that ъ changed into *o* or *a* according to the preceding vowel. This would be a unique case in the development of ъ, not rooted in the overall phonetic and phonemic system of Sl of the time.

Another explanation seems to suit the facts better: the assumption that metathesized forms arose spontaneously, without any anaptyctic vowels, and

for a certain period were used along with the old non-metathesized forms. The choice of, e.g., *alni* or *lani* was optional. Gradually, the new forms prevailed and the old ones with but a few exceptions were lost. This approach explains well why doublets of this type occur in OCS and OBg texts and some even in Mo M and Bg dialects, and why, dialectally, fluctuations spread even to some of those roots which never had an original ORC group (see sections 4 and 5 concerning Ἀρδαγαστός, *altica*, etc.). That such freedom of choice in order of components may exist in the combinations sonant + vowel is manifest, e.g. from Mo Bg in whose many dialects the choice between, say, *vərbá* and *vrəbá* 'willow' is optional (It is artificially regulated in standard Bg according to the number of following consonants and the presence or absence of a following vowel: *vrəx* vs. *və́rxa* 'top').

Yet even if the second theory is more plausible, the process of metathesis is indemonstrable. Only the fact of metathesis is solidly established, as well as the preceding stages in the change of ORC groups: their de-diphthongization and the lengthening of their vowels.

7. Problem of metathesis in ūRC, īRC groups. It was suggested that *ū*RC, *ī*RC groups developed like ORC groups, i.e. underwent a metathesis. The material is extremely scanty and limited practically to a few loan words of late CS. This is not surprising because a combination of two sonants, *u* and R, *i* and R, was not typical of IE or early CS. It could have appeared (apart of the groups C*i*SC, C*u*SC) in loan words and, possibly, in late CS neologisms. The relatively more reliable examples are:

OR *Lybedь*, woman's name, from ON *Ulfheiðr*;

SC *Lìpljan*, place-name in the Kosovo area, from La *Ulpiana*.

Specifically, it was suggested that OCS *ryba* 'fish', etc., be deduced from the root **ūr*- 'water, swamp' followed by the suffix -*b*(*ₒā*). This would be correct only if it was a late CS innovation; otherwise, in an older period, the word would have taken on a prothetic *v*- as always before *ŭ*- and the rules of word-initial groups would not apply to it. Since the root is not attested in Sl it could hardly have been a basis for neologisms in late CS.

8. Metathesis of other initial groups. In a single word the metathesis of *k* (followed by a consonant) and *a* (*ₒā*) may be supposed with a certain degree of plausibility:

OCS *kamy* 'stone', R, Br *kámen'*, U *kámin'*, P *kamień*, Pb *komói̯* (komói), LS, US *kamjeń*, Sk *kameň*, Cz, Sn *kámen*, SC *kȁmēn*, M, Bg *kámen* vs. Li *akmuõ* 'stone', Le *asmens* 'sharpness, edge', OI *áśmā* 'rock', Av *asman*- 'stone', Gr ἄκμων 'anvil'.

But if Sl here had metathesis it was shared with Germ: OHG *hamar* 'hammer', ON *hamarr*; in this case it certainly belonged to a much earlier period than the time when ORC groups underwent mutation.

There are no other examples of this type to judge whether the metathesis with *k*- was a general phenomenon or a special development in a single word.

9. Word-internal sonant diphthongs (CORC type). Examples. While in word-initial position the sonant (liquid) diphthongs had two treatments, they had four in word-internal position, as shown in section 2. Examples follow:

a) C*ₒar*́C groups (back vowel *r*-diphthongs with RP). I. Sk, M *krava* 'cow', Cz, Sn *kráva*, SC *krȁva*, Bg *kráva*; II. R, U *koróva*, Br *karóva*; III. P, LS, US *krowa*;

IV. Ka *kωrviňc* 'cow dung', Pb *korvó* 'cow' – cf. Li *kárvė*, OPr *kurwis* 'ox', Gr κερα(ϝ)ός 'horned', La *cervus* 'stag', Cym *carw*, OHG *hiruȝ*;

I. OCS *pragъ* 'threshold', Sk *prah*, Cz *práh*, Sn *pràg*, SC *prăg*, M *prag*, Bg *prág(ət)*; II. R *poróg*, Br *paróh*, U *poríh*; III. P *próg*, LS *prog*, US *proh*; IV. Ka *parg* (*pωrγ*) ~ *próg*, Pb *porʒáį* (pûrtzêý, nom pl) – cf. Li *pérgas* 'fishing boat', La *pergula* 'lean-to', ON *forkr* 'cudgel'.

See also OCS *brady* 'axe', *zabralo* 'visor', *xrabrъ* 'valiant', R *oboróna* 'defense', *doróga* 'road', *zdoróv* 'healthy', *goróx* 'peas', *xorómy* 'mansion', *korósta* 'scab', *skomoróx* 'buffoon', *moróz* 'frost', *porót'* 'undo', *poróm* (spelled *parom*) 'ferry', *soróka* 'jay', *skorómnyj* 'fat', *voróna* 'crow', Cz *práce* 'work', Sn *hrána* 'food', *práča* 'sling', *krápavica* 'frog', SC *hrăpav* 'uneven', etc.

b) C₀ârC groups (back vowel *r*-diphthongs with FP[9]). I. OCS *gradъ* 'town', Sk, Cz *hrad* 'fortress', Sn, SC *grâd* 'town', M *grad*, Bg *grad(ə̀t)*; II. R *górod*, Br *hórad*; III. P *gród*, LS *grod*, US *hród*; IV. OKa (Pontanus, 1643) *ogard*, Pb *gord* (ggôrd) – cf. Li *gar̃das* 'hurdle', OI *gṛhás* 'house', Av *gərəδō-* 'hollow', Alb *gardh* 'fence', Go *garþs* 'house', To B *kerciye* 'palace';

I. Sk *brány* 'harrow', Cz, M *brana*, Sn, SC *brána*, Bg *braná*; II. R, U *boroná*, Br *baraná*; III. P, LS *brona*, US *bróna*; IV. Ka *bωrna*, Pb *bórnă* (pôrne) – cf. Le *beȓzt* 'rub', Gr φάρω 'split', La *forō* 'bore', OHG *borōn*.

See also OCS *brašьno* 'food', R *borodá* 'beard', *borozdá* 'furrow', *dórog* 'expensive', *xvórost* 'brushwood', *kórob* 'basket', *kórotko* 'short', *nórov* 'custom', *pórox* 'gunpowder', *páporotnik* 'fern', *stórož* 'guard', *storoná* 'side', *skorodít'* 'harrow', *skovorodá* 'pan', *toropít'* 'hurry up', *vórox* 'pile', *vóron* 'raven', *vórot* 'collar', Br *dórab* 'basket', U *vóroh* 'foe', Cz *prase* 'suckling pig', *smrad* 'stink', *svrab* 'itch', SC *krâk* 'leg', *mrâk* 'darkness', *mrâv* 'ant', *prâz* 'ram', *srâm* 'shame', *trâk* 'ribbon', *vrábac* 'sparrow', *pȍvrāz* 'handle (of a bucket, etc.)', *zrâk* 'ray', etc.

c) CₑaŕC groups (front vowel *r*-diphthongs with RP). I. OCS *mrěža* 'net', Sk *mreža*, Cz *mříže*, Sn *mrẹ́ža*, SC *mrěža*, M, Bg *mréža*; II. U *meréža*; III. OP *mrzeża*, Ka *mřeža* – cf. Li *márška*, Le *meȓga* 'railing', Gr βρόχος (< *μρ-) 'loop', Ir *braig* (< *mr-) 'chain';

I. Sk *breza* 'birch', Cz *bříza*, Sn *brẹ́za*, SC *brȅza*, Bg *brezá*; II. R *berëza*, Br *bjaróza*, U *beréza*; III. P *brzoza*, LS *brjaza*, US *brěza*, Pb *bréză* (bresa) – cf. Li *béržas*, Le *bērzs*, OPr *berse*, OI *bhūrjas*, Osset *bœrz(œ)*, ON *bjǫrk*.

See also OCS *(po)črěti* 'scoop up', *brěmę* 'load', *vrěmę* 'time', *(za)vrěti* 'lock', *(po)žrěti* 'devour'; R *berësta* 'birch bark', *(u)merét'* 'die', *perét'* 'jostle', *(pro)sterét'* 'spread', *terét'* 'rub', U *smeréka* 'fir tree', Cz *(po)vříslo* 'straw band', *žřídlo* 'well', *dřín* 'cornel', Bg *vrétište* 'bag', etc.

d) CₑârC groups (front vowel *r*-diphthongs with FP). I. SChSl *črěpъ* 'skull', Sk *črep*, Cz *střep* 'shard', Sn *črêp*, SC *crêp* 'tile'; II. R, U *čérep* 'skull', Br *čérap*; III. P *trzop*, LS *crjop*, US *črjop* – cf. Le *šķērpele* 'chip', OPr *kerpetis* 'skull', OI *karparas* 'shard', Arm *kaŕap'n* 'skull', ON *skarfr* 'stump';

I. OCS *srěda* 'Wednesday', Sk, M *streda*, Cz *středa*, Sn, SC *sréda*, Bg *sredá*; II. Br *seradá*, U *seredá*; III. P, LS *środa*, US *srjeda*, Pb *srédă* (sreda) – cf. ELi *šerdē* 'marrow', Le *seȓde*, Arm *sirt*, Gr κῆρ (< *kērd), Go *hairtô* 'heart'.

See also OCS *črěsla* 'loins', *črěvo* 'belly', *trěbě* 'is necessary', *vrědъ* 'damage', *žrěbę* 'foal', *žrěbii* 'lot', R *béreg* 'shore', *čeredá* 'sequence', *čérez* 'through', *dérevo* 'tree', *péred* 'before', *terebít'* 'pull at', *téterev* 'heath cock', *veretenó* 'spindle', *čerenók* 'haft; graft', *nérest* 'spawning', Cz *vřes* 'heather', Sn *pondrẹ́ti* 'dive', *srȇn* 'hoarfrost', *vrȇsk* 'clamor', SC *prêk* 'cross(cut)', *srêš* 'tartar', etc.

e) C₀aĺC groups (back vowel *l*-diphthongs with RP). I. OCS *vlaga* 'moisture', Sk *vlaha*, Cz *vláha*, Sn, Bg *vlága*, SC *vlăga*; II. U *volóha*; III. LS *wloga*, US *włoha* – cf. Li *válgyti* 'moisten', Le *val̃gs* 'moist', OI *vṛjaní* 'cloud', OHG *wolkan*;

[9] Unstressed CORC groups here and later on are treated along with those with obvious FP. NRP is treated as RP.

I. OCS *blato* 'swamp', Sk *blato* 'filth', Cz, Sn, Bg *bláto*, SC *blȁto*; II. R, U *bolóto*, Br *balóta*; III. P, LS *bloto*, US *błóto* – cf. Li *báltas* 'white', Alb *baltë* 'dirt'.

See also OCS *dlanъ* 'palm (of hand)', *slana* 'hoarfrost', *šlěmъ* 'helm', R *xolóp* 'serf', *kolót'* 'prick', *kolóda* 'block', *kolódec* 'well', *solóma* 'straw', Cz *blána* 'membrane', SC *klȁšnja* 'stocking', *mlȁka* 'puddle', *Vlȁh* 'Romanian', *blàzina* 'pillow', etc.

f) C$_o$*âl*C groups (back vowel *l*-diphthongs with FP). I. OCS *vlastь* 'power', Sk *vlast'* '(home)land', Cz *vlast*, Sn *lâst* 'property', SC *vlâst* 'power', M, Bg *vlast*; II. R *vólost'*, an administrative unit; III. P *włościanin* 'farmer' – cf. Li *valščius*, an administrative unit, Le *vàlsts* 'state', OPr *waldūns* 'heir', Gr (ϝ)ἁλίσκομαι 'be conquered', La *valeo* 'be strong', Go *waldan* 'rule';

I. OCS *zlato* 'gold', Sk, Cz, M *zlato*, Sn *zlatô*, SC *zlȁto*, Bg *zlató*; II. R, U *zóloto*, Br *zólata*; III. P, LS, US *złoto*, Pb *zlåtə* (slata) – cf. ELi *žel̃tas* 'golden', Le *zèlts* 'gold', Go *gulþ*.

See also OCS *blago* 'good', *plakati* 'rinse', *plamy* 'flame', *slanъ* 'salty', R *dolotó* 'chisel', *gólod* 'starvation', *gólos* 'voice', *golová* 'head', *kólokol* 'bell', *kólos* 'ear (of grain)', *kolotít'* 'strike', *mólod* 'young', *mólot* 'hammer', *polosá* 'stripe', *poloskát'* 'rinse', *sólod* 'malt', *polotnó* 'linen', *póloz* 'runner', *solovéj* 'nightingale', *vólos* 'hair', *xólod* 'cold', *xólost* 'blank; single', Sn *plân* 'treeless plain', SC *tláka* 'forced labor', *vlât* 'ear (of grain)', etc.

g) C$_e$*al̃*C groups (front vowel *l*-diphthongs with RP). I. OCS *plěva* 'chaff', Sk *pleva*, Cz *pleva* (dial also *plíva*), Sn *plẹ̑va*, SC *plȅva*, M *plevna* 'feed barn', Bg *pljáva* 'chaff'; II. R, U *polóva*, Br *palóva*[10]; III. P *plewa*, LS *plowa*, US *pluwa* – cf. OLi *pẽlūs* 'chaff', Le *pelus*, OPr *pelwo*, OI *palā́vās*, La *palea* (< **palēva*);

I. RChSl *slěmę* 'ridgepole', Sk *slemeno* 'ridge', Cz *slemeno* 'ridgepole', Sn *slẹ́me*, SC *slȅme* 'ridge'; II OR *solomena* 'ridgepoles'; III. P *ślemię* 'joist' – cf. Li *šelmuõ* 'ridge'.

See also R *molót'* 'grind', *polót'* 'weed', *volóč'* 'drag', possibly also *molokó* 'milk', etc.

h) C$_e$*âl*C groups (front vowel *l*-diphthongs with FP). I. OCS *plěnъ* 'captivity', SC, Cz *plen* 'loot', Sn *plện*, SC *plên*, M, Bg *plen*; II. Br *palón* 'captivity', U *polón*[11]; III. P *plon* 'loot' – cf. Li *pel̃nas* 'profit', Le *pèl̦na*, OI *paṇas* 'agreed recompense', Gr πωλέω 'buy', OHG *fâli* 'for sale';

I. RChSl *žlědica* 'glazed frost', Sn *žlêd*; II. U *óželed'*; III. OP *żłód(ź)* – cf. Le *dzeldêt* 'harden (of snow)', Gr χάλαζα 'hail'.

More examples will be cited in section 10.

10. Peculiarities in the development of C$_e$*al*C groups. In reflexes of C$_e$*al*C groups twofold forms are found: partly continuing $_e$*a* > *e*, partly coalescing with the reflexes of C$_o$*al*C. At first glance the distribution of the two reflexes seems to be haphazard. Yet after screening the pertinent material the regularities become evident and the number of exceptions shrinks considerably.

Two chronological shifts are to be distinguished. The first took place (still in CS, although dialectally only) as a repercussion of the first palatalization of velars. It concerns the position after hushing consonants which arose from velars. The second shift is post-CS. It occurred after the de-diphthongization of *l*-diphthongs but before the metathesis; it also had a dialectal character,

[10] Concerning the coalescence of C$_o$*al*C and C$_e$*al*C reflexes in ESl and elsewhere see section 10.

[11] Br and U stress is secondary. It is derived from the verb *palanić'* – *polonýty*. Cf. 4,5.

encompassing the area of ESl, Ka and Pb. In most of the area it depended on the presence of RP.

To characterize these two shifts it is necessary first of all to set aside those cases dealing not with Sl innovations but with variants that continue the inherited (IE) vowel alternations. A typical example of this is OCS *dlanь* 'palm (of hand)', Sk, Cz *dlaň*, Sn *dlân*, SC *dlȁn*, M, Bg *dlan*; Br *dalón'*, U *dolónja*; P, LS *dłoń*, US *dłóń*, with all the forms going back to a C$_o$*al*C type group, while Balt has *e*-forms: Li *délna*, Le *del̃na*. In other cases it is within Sl that the alternation is evident, e.g. Sn, SC, M *dléto* 'chisel', Bg *dletó* vs. Sk, Cz *dláto*, P *dłoto* (R, U *dolotó*, Br *dólata* may go back to either C$_o$*al*C or C$_e$*al*C, both reflected identically) – cf. OPr *dalptan*; or Sk *mledzivo* 'beestings', Cz *mlezivo* vs. SC *mlâz* 'spurt (of milk)', and correspondingly in non-Sl: Li *mélžu* 'I milk' vs. *málžyti* 'to milk' (iter.)

The oldest shift in C$_e$*al*C groups to articulation farther back, $_e$*a* > ($_o$)*a* after hushing consonants, is observed in the SCe Sl area, but not everywhere with the same range. It may be traced in four words:

OCS *žlěsti* ~ *žlasti* 'repay';

OCS **člěnъ* 'limb, member' (attested as a borrowing in R) vs. SChSl *članъ*, Sk *člen* 'member' vs. *článok* 'joint', Cz *člen* 'member' vs. *článek* 'article', Sn *člên* 'joint', SC *člȃn*, M *člen* 'article', Bg *člen*;

SChSl *žlěbъ* 'gutter, kennel', Sk *žleb* ~ *žľab*[12], OCz *žleb*, Cz *žlab*, Sn, SC *žlêb*, Bg *žleb*;

SChSl *žlěza* 'gland', Sk *žlaza*, Cz *žláza*, Sn *žléza*, SC *žlézda*, Bg *žlezá*.

This is a small number of instances but as the whole type is represented by six roots only, the percentage is high enough.

The *a*-forms in these words may be explained as the result of a dialectal lengthening $_e$*a* > $_e$*ā* which occurred before the metathesis, so that the newly formed *ě* joined the old *ě* in losing its on-glide after palatals and yielding *a* (See 17,6). The area of particular concentration of this phenomenon is that of Cz with its *článek* (but *člen*), *žláza*, *žlábek*. Sk shares with Cz only *žlaza*, SC only *člȃn*. Sn, M and standard Bg seem to have no *a*-forms. Under these condition the OCS doublet *žlasti* along with *žlěsti* may be considered as one of the Moravianisms in OCS texts. In Cz itself *a* as a rule occurs in long position: *žlábek* now confronts *žlab* with short *a*, but OCz had *žleb*[13]; on the other hand, OCz had length also in *žléza*[14]. Of course the distribution of length and brevity in Cz is considerably reshuffled as compared with CS, but it may be supposed that the phenomenon was typical of lengthened $_e$*a*.

The change does not appear in RChSl *žlědica* 'glazed snow', but this word is

[12] The palatalization of *l'* shows that *a* is secondary and arose from *e* in Sk.

[13] The irregular form *žlab* (with short *a*) seems to be secondary and due to a blending: the Kralice Bible (1579–93), which distinguished *l* and *l'*, had the latter in this word. This came from **žleb* as blended with *žlábek*, where length of *a* is justified. The Mo Cz *žlab* probably continues this blending.

[14] Besides, a form *hléza* existed along with *žléza*, and the latter could have resulted from a blending of *žláza* with *hléza*.

not attested in the Cz area. As for the last remaining word of the group, OCS *šlěmъ* 'helmet', it is also rare in the Cz area, appearing only dialectally in the changed meaning of 'women's hairdress'. It may have come to the Cz area from some other Sl dialects. The unexpected lack of length in the root vowel confirms this assumption. The unique forms of the other languages, SC *člân* (with characteristic length) and Bg dial *član* 'bough' may be weak repercussions of the change typical of the Cz area but can also be connected with scattered cases of *a* from *e* ($_{e}$*a*) as characterized in 17,6. Thus the change $_{e}$*a* > $_{e}$*ā* > *ā* after hushing consonants before *l* followed by a consonant seems to have been one of the earliest available Cz-area dialectal developments of the CS period.

The ESl, Ka and Pb shift $_{e}$*a* > $_{o}$*a* (> *o*), as stated above, belongs to a much later epoch, that of the loss of diphthongal status by *l*-diphthongs and their metathesis. As the ESl facts are all on hand while those of Ka and Pb are scanty it is expedient to examine the former separately.

As a rule ESl has pleophony with *o* (*olo*; in dialects with *akan'e alo*, *ala*) in place of CS C$_{e}$*al*C groups, e.g.:

R *molót'* 'grind', Br *malóc'*, U *molóty* vs. OCS *mlěti*, P *mleć*, LS *mlaś*[15], US *mlěć*, Sk *mliet'*, Cz *mlíti*, Sn *mlẹti*, SC *mlȅti* – cf. OPr *meltan* 'meal, flour'; in ES the original *e* is obvious in, say, 1 sg: R, U *meljú*, Br *mjaljú*;

R, U *molokó* 'milk', Br *malakó* vs. OCS *mlěko*, P *mleko*, LS, US *mloko*[16], Sk *mlieko*, Cz *mléko*, Sn *mlẹ́ko*, SC *mléko*, M *mleko*, Bg *mljáko* – cf. Gr μέλκιον 'well, spring';

other examples are R *polót'* 'weed' – OCS *plěti*, R *voločít'* (dial *volóč'*) 'drag' – OCS *vlěšti*, R *polóva* 'chaff' – OCS *plěva*, R *tolóč'* 'pound' – OCS *tlěšti*, U *polón* 'captivity' – OCS *plěnъ*, etc.

It cannot be said however that C$_{e}$*al*C groups in ESl are represented always as C*olo*C. There are instances, though less numerous, when they yielded C*ele*C groups, in agreement as to their vowel with most of the other Sl languages. The pertaining data are:

R *selezënka* 'spleen', Br *seljazënka*, U *selezínka* as compared to SChSl *slězena*, P *sleziona*, Sk, Cz *slezina*, Sn *slẹzə̂n*, SC *slezìna* – cf. Av *spərəzan-*, OIr *selg;*

R, U dial *sélezen'* 'drake', possibly cognate of Ir *selg* 'hunt', MHG *selken* 'drip';

R dial *péled* 'shed' – cf. Li *pelùdė* 'chaff barn', Le *pelūde*, OI *paladás* 'part of a house';

R dial *mélen* 'handmill handle', P *mlon* (Cf. SC Čak *mlán*) – cf. Li *milinỹs*, Le *mìlna* 'handmill pestle';

U *véleten'* 'giant', from the name of the people Οὐέλται (Ptolemy); R dial *vólot* goes back to a C$_{o}$*al*C form, cf. RChSl *vlatъ*.

Analysis of the two sets of words shows that as a rule those with *o* are characterized by RP, those with *e* by FP. The only deviation is R dial *vólot*, a rare

[15] LS *a* comes secondarily from *e*.

[16] With *o* from *e*, as the palatalization of *l* shows.

word whose stress is not quite ascertained[17]. Dependence of this distribution on intonation is not unjustifiable. When $_{e}$*al* with RP lost its diphthongal status the top of the intonational curve shifted from *l* onto the preceding component, i.e. *a*, which generally was to yield *o*; here this development was especially supported by the labializing effect of *l*:

$$C_{e}a\acute{l}C > C_{e}\acute{a}\|lC > Co\|l(o)C.$$

Under FP the intonational center rested on the first component and there it remained, hence (in a simplified presentation):

$$C_{e}\grave{a}l\,C > C_{e}\grave{a}\|lC > Ce\|l(e)C.$$

Of the cases analyzed those in which the first consonant was hushing must be kept apart. In these C$_{e}$*al*C changed into C*olo*C (in OR and R spelled mostly C*elo*C), independently of the character of their pitch. This is to be connected with the absorption of the on-glide $_{e}$ by hushing consonants, a typical phenomenon of CS (See 17,6). The remaining part of the vowel, *ă*, changed into *ŏ* at the time when this change was spreading in Sl. Examples are:

OR *šelomъ* 'helmet', U *šolóm* (with RP), SChSl, RChSl *šlěmъ*, OP *szłom*, etc., from Germ **helmaz* (Go *hilms*);

R, U *žólob* 'gutter, kennel', Br *žólab* (with FP), Sn *žlêb*, etc., – cf. ON *golf* 'hollow in a vessel';

Br *zalóza* 'gland', U *záloza* (< **ž$_{e}$alz$_{o}$ā*) show the complete assimilation of the initial syllable to the prefix *za-*; but the presence of *o* after *l* and the non-palatalized character of the latter permit reconstruction of ESl **žoloza* (Cf. in MBr, 1495: *želoza*). R *železá* also underwent a blending but it was the first syllable which remained intact and the second which was affected. The influencing word was *železo* 'iron'.

The presence of a preceding hushing consonant was the main condition for the change $_{e}$*a* > *a* > *o*; but the change was materialized only if no front vowel followed. In the latter case *l* obviously was not subject to labiovelarization; and *a*, possibly through the allophonic stage *ä*, yielded *e*, rather than *o*. This is the case, e.g., of U *óželed'* 'glazed snow'.

To summarize, in ESl C$_{e}$*al*C changed into C*olo*C 1) after hushing consonants unless followed by a front vowel; and 2) after other consonants under RP.

The first of these changes is shared with P, with its *szłom*, *żłób*, *czlon* 'member' (but also *żłódź* 'glazed frost') and, in what concerns the choice between *e* and *o*, also *zołza* 'gland' which otherwise escaped metathesis and has the initial *ž* assimilated to the following *z*. Sorbian also followed this trend, cf. LS *cłonk*, *žłob*, US *čłón*, *žłob*.

The situation in Pb is more difficult to determine precisely. In all the instances available Pb has C*lå*C, which is the reflex of C$_{o}$*al*C as well: *mlåkă* (mlaka) 'milk' (gen sg), *vlåcə* (wlatze) 'drag' (3 sg), *mlåt* (mlaht) 'grind', *plåvə* (plawe) 'weed' (3 sg). Unfortunately, these examples consist of words with

[17] *Polón* in other Sl languages has FP, but in ESl it switched to RP (See footnote 11).

original RP only and there is no evidence as to whether any difference existed in the reflexes of C*ₑal*C groups with FP.

Since the Snc dialect of Ka did not have the same reflexes in both cases (*mlôko*, *mloc*, *ploc* vs. *plon* with a secondary *o* from *e* as shown by the palatalization of *l*) an assumption may be ventured that except after hushing consonants the whole N and NE part of Sl, including ESl, Ka and Pb had twofold reflexes of C*ₑal*C groups: with *o*-type vowel under RP and originally *e*-type vowel under FP[18].

11. Conservation of unchanged CORC groups. In the attested Sl languages there are some forms which seem to have escaped the general development of CORC groups and preserve the original IE and CS order of components. Such forms are virtually unknown in Ce, SW and NE parts of the Sl territory (Sk, Cz, Sn, SC, R, Br, and U). The areas of their concentration are the SE and NW of the Sl world. In the SE it is Bg, primarily the E regions; in the NW it is NP, Ka and Pb. In either case most of the forms in question have died out by our time, but some remnants still survive in dialects and/or place-names; and they are well attested in older records[19].

[18] Among R words which have *Cele*C those must be kept apart which did not develop from a CORC group but rather had the sequence *ele* as early as CS or in which this sequence is of some other origin, e.g.:

R, U *belená* 'henbane' – cf. Gaul *belinuntia*, MLG *billen*, OEng *belene* ~ *beleone*. As for Cz *blín* ~ *blén*, Bg *bljan* 'dream', they do go back to a C*ₑal*C form (SC *bûn* in # grade);

R *pelená* 'shroud, diaper', U *pelená* 'hem of skirt', and also OCS *pelena* 'swathing band', SC *pelèna*, Bg *pelená*, going back to **pₑal* + *ₑan*- vs. other forms which developed from **pₑal* + *n*-: Sk *plena*, Cz *pléna* ~ *plena*, Sn *plenica* (and also *pelenica*) – cf. Gr. πέλας 'skin', La *pellis* (< **pelnis*), OHG *fel* 'fell, pelt);

R dial *pelësyj* 'spotted', RChSl *pelesъ* 'dusky', Sn *pelę́sast* 'spotted' – cf. Li *pelė́ti* 'mold', Le *pele* 'mouse', etc., with the first *e* belonging to the root and the second coming from the suffix *-es-*;

R, U *šélest* 'rustle', Br *šaljascénne*, P *szelest*, Sk *šelestit'*, Cz *šelest*, onomatopoeic.

In most cases of this type a mere confrontation of ESl forms with the non-ESl suffices to show that there is no regular set of correspondences.

[19] For the Ce Sl area one may only refer to LS *palkaś* 'rinse' vs. OCS *plakati*, Sk *plákat'*, Cz, Sn, SC *plákati*, Bg *plákna*; P, US *plokać* – cf. Le *palce* 'horse pond'.

In ESl the following words lack the second vowel in their pleophonic groups:

R *gornostáj* 'ermine', Br *harnastáj*, U *hornostáj* – cf. Sk, OCz *hranostaj*, Sn *gránoselj*, P *gronostaj*, with unclear etymology;

R *výportok* 'premature infant' – vs. Br *výparatak*, U *výporotok*, P *wyprótek*, cf. R *porót'* 'undo', etc.;

R *prítolka* (and *prítoloka*) 'lintel' – cf. Li (*pã*)*talas* 'bed frame', OPr *talus* 'floor', etc.;

U *tetervák* 'heath cock' vs. R *téterev*, P *cietrzew*, Cz *tetřev* 'capercaillie', Sn *tetrêv* 'pheasant' – cf. Li *tetervà*, etc.

These cases involve trisyllabic words and occur in unstressed position; thus the reduction of unstressed vowels was the first contributing factor for the loss of the second vowel in the pleophonic groups. Furthermore, semantic associations interfered and led to blendings: *gornostáj* is associated with *górnyj* 'mountaneous', *výportok* with *pórtit'* 'spoil', *prítolka* with *tolkú* 'pound'. In all these cases a secondary development took place after the pleophonic groups had arisen.

In Mo Bg the non-metathesized forms are almost unknown. The form *dálta* 'chisel' (Standard Bg *dletó*) is recorded in the area of Sliven, possibly coming from Rm; *kargúj* 'falcon' (Standard Bg *kragúj*) is also reported from dialects[20]. But in MBg such forms, though scattered and infrequent, are numerous enough to be reliable: *baltina* ‚swamp', *maldičie* 'youth', *paltьcъ* 'half of a carcass', *zaltarinъ* 'goldsmith', *xaldodavica* 'bringing dew', *svarbъ* 'itch' (Octoechos of the 13–14 century, Jonh Exarch of Bulgaria). The striking feature is that all the examples involve C₀*al*C group alone and all the roots represented originally had FP, except *baltina* (Cf. R *mólod*, *pólot'*, *zóloto*, *xólod*, *svórob*).

The other area in which the non-metathesized CORC groups are well attested is that of Pb, Ka, and NP. In this region the non-metathesized forms appear with either pitch, but only in C₀*ar*C groups, which are reflected as C*ar*C (which in Pb subsequently followed the general change of *a* into *o* and therefore are recorded with *or*). The most consistent in this respect is Pb. It has this *or* everywhere, except in the two or three words: *brödă* (brödda) 'beard', *brödăváįćă* (bredaweizza) 'wart', and possibly *prüst'au* 'powder', gen sg. (P *proszku*) if this is what is rendered by the spelling *brüstyaf*. Cf., e.g., *vågórd* (waggôrt) 'garden', *vórnǫ* (wornung) 'crow' (acc sg), *stórnă* (starna) 'side', *bórnă* (pôrne) 'harrow', *morz* (môrs) 'frost', etc.

In Ka of our time the *ar*-forms, aside from numerous examples in place-names, occur only in a few words: *bardófka* 'wart', *charst* 'brushwood', *skarńå* 'temple', *stårnef* 'flounder', *smarglënă* 'bird cherry'. Otherwise *ar*-forms are crowded out by *ro*-forms which spread from South. But in records of the nineteenth century the number of *ar*-forms is higher and their widespread use in place-names (Cf. *Charbrowo*. *Kartoszyno*, *Odargowo*, *Karwia*) proves that originally they were normal in the area, although in some words solely *ro*-forms are attested, e.g. in *droga* 'road'. *krok* 'step', *krowa* 'cow', *zrok* 'sight', etc.

In NP the *ar*-forms are no longer used but records of older times as well as place-names bear witness to their presence in the past. As early as the Bull of 1136 the non-metathesized *Dargorad* is found along with *Drogomizl*, both personal names. *Karw* 'bullock', a masc counterpart to *krowa* 'cow', supposedly with FP, was in common use till the seventeenth century (W. Potocki) and it appears in four place-names: *Karwowo* in Mazovia, as well as *Karwin*. *Karwosieki*, *Karwodrza*. *Parmnin̈* 'bunch of straw to bind sheaves' (Standard P *promień* 'ray') is recorded beyond Ka in N Kociewie and Bory Tucholskie. OP had *chabry* 'valiant' (< **charbry*) in the title of king Bolesław I, *charpęć* 'overgrowth', *zagardzić* 'fence', cf. Mo P *chrobry*, *chropawy* 'uneven, raw', *zagroda* 'fence'; cf. also such place-names as *Warnawa*, *Wyszegard*, *Starża* (Cf. P *wrona* 'crow', *gród* 'town, castle', *stróż* 'guard'). It is impossible to establish whether originally there were both *ar* and *ro*-forms in the Ka and NP area, the distribution depending on some no longer reconstructible facts; or whether

[20] *Varna*, city-name, is a fact apart. It is a form from the time prior to metathesis, and its preservation is usually ascribed to the Greeks who for a long time constituted a large part of the city population. But cf. also *Ka-varna* (north of Varna), *Smarda* (Distr. Kjustendil).

the north had *ar*-forms throughout as opposed to southern *ro*, and the two only later became confused in resettlements and reciprocal influences. In the latter case, the original isogloss cannot be determined.

The Pb territory is linked with Ka and NP by numerous place-names of Sl origin preserved in German after the Germanization of the land, e.g. *Barnekow* (Distr. Wismar), *Barnkenitz* (Rügen), both from **b$_o$arn-* (R *boroná* 'harrow'), *Dargeröse* (Distr. Słupsk), from **D$_o$arg$_o$ar$_o$ādjĭ*, *Dargow* (Distr. Lauenburg), from **d$_o$arg-* 'dear', *Warbelow* (Distr. Malchin), from **v$_ə$arb-* (R *vorobéj* 'sparrow'), etc. While in the Western part of the area only *-ar*-type reflexes occur in place-names, the farther one moves east the more frequent reflexes of the *-ro*-type become.

Traces of unmetathesized groups other than C$_o$*ar*C also exist but they are relatively rare. The C$_e$*ar*C group appears without metathesis in Pb in the prefix *per-* (along with *pri-* < **pre-*), e.g. *perdójə* (perdoja) 'pass' (3 sg), *perdojáịkă* (perdógeika) 'vendor', etc. It is supposed that at first *per-* was preserved before roots beginning in a vowel while *pri-* developed before those with an initial consonant, but later the distinction was lost and the distribution became haphazard. In place-names the non-metathesized C$_e$*ar*C groups are very rare and usually occur only in the oldest records, e.g. *Birznig*, now *Bisnitz*, river-name (in Meklenburg), from **b$_e$arz-* (R *berëza* 'birch tree'). These reflect the status before metathesis rather than after.

As for C$_o$*al*C, C$_e$*al*C groups, the examples are not much more numerous, but cf. *Moltow*, P *Młotkowo* (Distr. Kołobrzeg and Wismar) (*Moltowe*, 1276) – P *mlot* 'hammer'; *Maldewin* (Distr. Regenwalde) (1284) – P *mlody* 'young'; *Pasewalk* and *Pritzwalk* (*Pozdewolc*, 1177, *Prezwalk*, 1267), cf. for their second component R *vólok* 'portage'. The rarity of place-names of this type implies that they belong to the oldest stratum of Sl place-names in German and probably were adopted by German prior to metathesis in the CORC groups. In Mo P possibly the non-metathesized type is represented by *zolza* 'gland' (LS, US *žalza*) but additional research into the history and geography of the word is needed.

Thus in the NWSl area only C$_o$*ar*C groups were to a certain extent arrested in their development. All other CORC groups underwent the regular metathesis, if one discards occasional one-word deviations.

A possible reason why the metathesis lagged behind in C$_o$*al*C groups in Bg and was arrested in NWSl C$_o$*ar*C groups will be discussed in section 12. But another view, the theory of reborrowing, may be rejected immediately. According to it non-metathesized forms in both initial and medial positions were borrowed from an adjacent language, Rm in the case of Bg, German in the case of NWSl, which prior to the metathesis had borrowed them from Sl. The cases are too numerous and, although the procedure is possible in a few place-names (as well as in Mo Bg *dálta*), it cannot be applied in every instance. There is no evidence that Rm and German ever borrowed all these words from Sl. And why should only words with one type of CORC groups have been reborrowed in each particular case?

12. Problem of transition from CORC groups to the new configurations. In section 6 several stages were established for the metathesis of initial liquid diphthongs (ORC): their de-diphthongization, followed by the lengthening of the vowel (in all cases or only under RP, according to dialect) and finally the metathesis proper. The first of these stages, the de-diphthongization, no doubt applies also to the CORC groups, i.e. to the liquid diphthongs in word-internal position. The gist of this process again was the transference of the whole pitch contour, whether RP or FP, onto the vowel alone, a transference which made the following sonant a regular consonant. The second stage, lengthening of the vowel, applies only to the SCe area in which the reflexes of CORC groups all have as their vowel *a* and *ě*. The next stage, the metathesis proper, is also fully applicable to CORC groups in that part of Sl and with some reservations (see section 13) to the P-So and WB groups. The non-metathesized examples of Bg tend to confirm the view that metathesis took place without any vowel insertions and that doublets of the types, say, C*ar*C and C*ra*C were a matter of free variation for a certain time.

For CeSk, Sn, SC, M and Bg, thus, a complete identity in the change of ORC and CORC groups may be reliably assumed. It is only in the remaining member of the group, Cz, together with WSk and ESk, that a minor difference exists: while ORC groups yield R*a*C only under RP, C*o*RC groups became CR*a*C independently of the intonation; that is in medial position the vowel in these groups was lengthened no matter what the intonation, cf. Cz *rádlo* (RP) vs. *rostlina* 'plant' (FP) but *hrách* 'peas' (RP) as well as *prach* 'dust' (FP). The difference in treatment depended on the fact that in internal position the pitch contour of the diphthong shifted onto the vowel alone: the vowel acquired RP or FP which automatically meant length (pitch opposition existed solely on lengths). In word initial position however, as shown in section 6, this transference occurred only under RP, where it was unavoidable because in the diphthong OR under RP the summit of the pitch curve affected the sonant, *r* or *l*; when the latter was reassigned to the next syllable the summit of the pitch curve was transferred onto the vowel. This meant RP and, by the same token, length. Under FP in ORC groups no qualitative changes occurred, just shortening of the pitch curve line; and since short vowels, phonetically, had the same pitch contour as long vowels under FP the vowel remained short.

This may imply that de-diphthongization of CORC groups in this area preceded in time the de-diphthongization of ORC groups:

(1) COŔ||C > CÓ||RC, CÔR||C > CÔ||RC; OR||C unchanged;
(2) CŌRC; OŔ||C > Ó||RC, ÔR||C > Ŏ||RC;
(3) Split of °*ă* into *ā*, *ŏ*. Concomitantly C*ā*RC; *á*RC, *ŏ*RC;
(4) Metathesis: CR*ā*C; R*á*C, R*ŏ*C.

But the difference in time is not necessarily to be assumed; (1) and (2) could have proceeded simultaneously; in this case the difference in the treatment depended merely on the position in the word, the initial vowel more strongly resisting shifts in intonation. (It is an open question whether, for Cz, it can be

connected with the beginning rise of initial stress, the chronology of which is questionable).

To all other Sl dialects, outside of the SCe group, this scheme of CORC-group development applies only in its first stage, de-diphthongization, which was common Sl. The second stage, lengthening, seems to have occurred in those dialects, if at all, only after the change of $_{\circ}$*ă* into *ŏ*, so that the way toward *a* was cut off [21]. This also indicates that the reshaping of CORC groups took place here later than the change of ORC groups in whose reflexes *a* appears under RP. For the P-So group the sequence of sound changes, thus, is to be represented as –

(1) ORC de-diphthongized: OŔ||C > Ó||RC, ÔR||C > Ŏ||RC; CORC unchanged;
(2) Split of $_{\circ}$*ă* into *ā*, *ŏ*: Ó RC > *á*||RC, Ŏ||RC > *ŏ*||RC; CŎRC;
(3) CORC de-diphthongized: C*ŏ*||RC;
(4) Metathesis: *a*RC > R*a*C, *o*RC > R*o*C; C*o*RC > CR*o*C.

A special problem is the treatment of C$_{\circ}$*ar*C groups in Pb and to some extent Ka and NP. As shown in section 11, the outcome of the WB development in these groups was C*ar*C (Pb *gorx* 'peas', Ka *charst* etc.). While the MBg non-metathesized C*al*C groups (type *zaltarinъ*) are easily understood as last traces of the period when the groups C*al*C and C*la*C were freely interchangeable, the WB C*ar*C groups cannot be regarded as petrified relics of such a period: under such an assumption we would expect C*or*C-type groups, with *o*, not with *a* [22]. The latter could have developed from lengthened $_{\circ}$*a* but, as shown, it was not lengtened otherwise in WB in CORC groups.

Rozwadowski called attention to the fact that in the WB dialects the reflexes of C$_{\circ}$*ar*C are identical with the reflexes of C*ŭr*C, as, e.g., Pb *bórz*(*ə*) (bôrs) 'soon(er)', Ka *barzo*, both from **bŭrz*-. He suggested that C*ar*C reflexes arose from C$_{\circ}$*ar*C groups under shortenings which occurred in many cases in WSl, e.g. before "heavy suffixes", in compounds, etc. (See 32, 4–5). Thus $_{\circ}$*a* (*o*) before *r* under certain intonational conditions shortened into a reduced vowel which by that time had developed from *ŭ*, and eventually the C$_{\circ}$*ar*C groups coalesced with C*ŭr*C groups.

This view is hardly tenable in its entirety. The distribution of *-ar-* and *-ro-* forms as attested in Ka and NP is fairly haphazard and cannot be derived so easily from original pitch and length distribution. Complete elimination of *-ro-* forms in Pb (with the exception of the root *bröd-* 'beard') cannot be explained

[21] In US lengthening is represented under RP, e.g. *brěza* 'birch tree', *trěć* 'rub' where *ě* seems to reflect CS $_{e}$*ā* and not $_{e}$*ă*. Yet this is a lengthening of later date, as the examples with C$_{\circ}$*a*RC groups show, as *blóto* 'swamp', *brózda* 'furrow', etc. If it were CS length it would be reflected as *a* or its later modification; *ó* represents a lengthening which occurred after CS $_{\circ}$*a* split into *ā* and *ŏ*. US *ě* is ambiguous for it may reflect both CS *ě* and new lengthened *e*.

[22] Ka has preserved *a*; Pb *o*, as indicated in section 11, reflects earlier *a*, cf. *brot* (brot) 'brother' < *brat*, while older *o* yields either *å* (before non-palatalized consonants) or *ü* (in other positions), e. g. *våt'ű* (watgi) 'eye' < *oko*, *vüs* (wiss) 'axis' < *os*(*ĭ*).

at all with this approach. It remains unclear why shortenings with a qualitative change of the vowel should have affected only C$_o$*ar*C but not C$_e$*ar*C, C$_o$*al*C and C$_e$*al*C groups.

While the reference to the original intonations and WSl shortenings of long vowels cannot be maintained for WB Sl as a whole and Pb in particular, the very coalescence of C$_o$*ar*C and C*ŭr*C reflexes in this part of the Sl area was observed correctly. It may be supposed that on the NW outskirts of the Sl territory the monophthongization of all *r* and *l*-diphthongs was delayed. This is explainable by the peripheral location of these tribes and their lively contacts with the speakers of German and, to a certain extent, OPr, languages with well developed sets of diphthongs. If such a slackening took place, the typical CS tendency to eliminate diphthongs by reinforcing their last component, extinct by that time in the other Sl dialects, could have been still productive in WB Sl. As a result in C$_o$*ar*C groups *r* became syllabic, which consequently brought about the reduction of the preceding vowel and eventually, when *ŭ* was reduced in certain positions, led to a merger of C$_o$*ar*C groups with C*ŭr*C groups. In the Ka area, where German contacts were not so strong the "Polabian" and the Polish trends clashed, resulting in the rather disorderly array of *-ar-* and *-ro-* forms. It is not impossible that in this narrower area *r* became syllabic originally in FP (and shortened) syllables, as Rozwadowski proposed, but this is indemonstrable with the data available now. The answer to the question of why the change in status of the sonant affected only C$_o$*ar*C and not the other types of CORC groups may be sought in the fact that *r* is more apt to be syllabic than *l*; and as for C$_e$*ar*C groups, in the chronology of changes in C*ĭ*SC groups (See 30.5) as compared with that of de-diphthongization in C$_e$*ar*C groups. But the details remain unclear.

For ESl with its pleophony both lengthening of the vowel and metathesis are out of the question[23]. After having de-diphthongized CORC groups, ESl solved the problem of the newly arisen consonantal clusters R + C by inserting an anaptyctic vowel. It is not impossible that this vowel was at first a reduced type, but there are no palpable proofs for it. At any rate, by the tendency toward "disyllabic harmony" of vowels this vowel became identical with the preceding one and this is the situation which is found in the earliest records of ESl dialects. Schematically:

COR||C > CO||RC > [CO||R°C] > CO||ROC.

There is a widespread view that the facts of U permit the reconstruction of the reduced-vowel stage for the position between the sonant and the

[23] Attempts were made to prove that ESl like P-So first had metathesis and then inserted a vowel before the sonant, but they failed. If ESl ever had to insert a vowel between the initial consonant and the sonant it would have not only *borodá* (R) from the alleged ⁺*broda* but also ⁺*barat* from **brātŭ* 'brother' and ⁺*borod* from **brŏdŭ* 'ford'. Reference to the replacement of OR *sьrebro* by *serebro* 'silver' is beside the point. The forms R *serebró*, Br *serabró*, though known from the oldest texts, are of later date and present an isolated case of secondary adaptation to the pleophonic pattern by assimilation of ь to the vowel of the next syllable. U *sríblo* still preserves, in this respect, the older form.

following consonant[24]. This view is hardly acceptable. First of all, in U, *i* developed in some cases in pleophonic groups, under NRP (See 33,4), e.g *boríd* 'beard' (gen pl), *borídka* (dim). Secondly, no inference can be drawn from the difference in treatment of *o*, *e* in the pleophonic groups and elsewhere as to the length of the inserted (anaptyctic) *o*, *e* because the U development *o*, *e* > *i* was based on narrowing of the vowels and not on their lengthening. If such a lengthening is assumed, even only as a concomitant of the narrowing, it would imply in Proto-U at least four degrees of quantity: lengthened *ō*, *ē*, normal (short) *o*, *e*, half-reduced *ŏ*, *ĕ* and fully reduced *ъ*, *ь*, which is unprecedented in any Sl language. In point of fact, the only indication which may be extracted from the U data is that *o*, *e* in pleophonic groups developed later than the time when original *o*, *e* underwent narrowing in the position before weak *jers*. Schematically, by using the words U *brid* 'ford' and *horóx* 'peas' as samples:

(1) *brodъ* > *brọdъ*; **gor¦xъ*
(2) **go||rxъ* > *gor°xъ* > *goroxъ*. Thus *brọdъ* vs. *goroxъ*.
(3) Mo U *brid* vs. *horóx*.

In this conjunction it is noteworthy that *o* in ORC groups follows the pattern of *brid*, and not of *horóx*, e.g. *rist* 'growth', *rívnyj* 'even'. This may indicate that in this part of ESl, too, changes in ORC groups occurred sooner than in CORC groups; but rather it is to be accounted for by the fact that in ORC groups ESl had metathesis, so that the vowel after the sonant was normal *o* or *e*, while in CORC groups there was no metathesis and the vowel inserted between the sonant and the consonant was a new one. In any case, the U data may provide evidence as to the relative chronology of CORC-group development but no evidence as to the original character of the anaptyctic vowel.

Certain hints as to the latter may possibly be found in a fact which is known from R dialects and partly from Br. Instead of C*oro*C, C*olo*C the groups C*ory*C, C*oly*C are occasionally found. This occurs before palatalized *m*, *n* (historically speaking *m*, *n* followed by *ę* or by *ĭj*) under FP. The phenomenon is typical of NR and less widespread in SR and Br, although even in NR *oro*, *olo* occur along with *ory*, *oly*, often in the same words. The fact is attested from the twelfth – thirteenth century but may be and probably is older.

The pertinent data are:

R dial *skoryn'já* 'jaw' (Astraxan' region), OR *skorynija* (*Prolog*, 13th century), cf. Sn *skrȃnje* 'temples';

R dial *sporyn'já*, OR *sporynija* 'abundance' (*Oglašenija* of Cyril of Jerusalem), cf. SC *spȍr* 'lasting';

R dial *polyn'já* 'ice-hole' (Archangel, etc.), cf. R *pólyj* 'hollow', OCz *planě* 'open land'; the Br correspondence *palónka* had no conditions for *y*: neither palatalized *n*, nor FP;

R dial *pólymja* 'flame' (Vladimir, etc.), Br *pólymja*, cf. LS *plomje*;

R dial *golymjá* 'open sea' (Archangel, Vjatka), cf. Sn *gòl* 'naked';

[24] In U of the twelfth – sixteenth centuries *o* and *e* changed into *i* (*o* via *u* > *ü*) if originally followed by a so-called weak *jer* (See 29, 8), but not as a rule in pleophonic groups. Thus, *brodъ* > *brid* 'ford' but *goroxъ* > *horóx* 'peas.

the group is joined by R dial *šólymja* 'hill, roof ridge', although the intonation of the underlying word is rising, cf. U *šolóm*.

Cf. also the R place-name *Vorypáevo*, based on *vórop*, with a different phonetic environment.

The data are not unequivocal. The words in *-yn'ja* could have been influenced by the *-yni* suffix: *-ymja* forms could have obtained their *y* in anticipation of the original ending of the nom sg (Cf. OCS *plamy*): **p₀almy* > **polomy* > **polymy* > *polymę* (with *-ę* from the *imę*-type neuters). Although these explanations are plausible to a greater or lesser extent there is a counterargument, at least as for the type in *-yn'ja*: *y* is always unstressed in these examples while in the *-yni* suffix it is mostly stressed, particularly in trisyllabic words, cf. R *svjatýnja* 'sacred thing', *pustýnja* 'desert', etc. If the explanation by blending is refuted, one is tempted to see in these forms the trace of an original anaptyctic vowel, secondarily lengthened in these particular phonetic environments. After all, the two viewpoints do not exclude one another: an anaptyctic vowel could more easily undergo the influence of *y* in the *-yni* suffix or in the ending (*plamy* type) than a full-fledged *o*. A definitive solution of the problem is impossible so far, and the inference in favor of the presence and the character of the original anaptyctic vowel in ESl pleophony as reflected or not in these examples remains questionable.

In summarizing, the developments of CORC groups in the four areas of Sl were as follows:

South Central area: (1) De-diphthongization
(2) Lengthening
(3) Metathesis: CR*a*C, CR*ě*C.

Polish-Sorbian area: (1) De-dipthongization
(2) Metathesis: CR*o*C, CR*e*C.

Western Baltic area: basically as in P-So but in C₀*ar*C groups transference of syllabicity onto *r* with ensuing reduction of ₀*a* and eventual merger with C*ŭr*C group: CR*e*C, C*lo*C, but C*ar*C.

Eastern area: (1) De-diphthongization
(2) Insertion of an anaptyctic vowel
(3) Assimilation of this vowel to the preceding one: C*o*R*o*C, C*e*R*e*C.

13. Assessment of arguments in favor of an anaptyctic vowel in SCentral and P-So areas. The partisans of the view that CORC groups changed by insertion of an anaptyctic vowel (and not by a direct metathesis) not only in ESl but everywhere collected certain facts which are supposed to support their standpoint. These facts are of three types.

a) Clusters of consonants which arose after the metathesis are treated differently than the same clusters of an older date. The data concern OCS and LS. In OCS *d* is systematically inserted between *z* and *r*, even in recent foreign words, also between the prefix *iz* and a root beginning in *r*, but not in the clusters *zr* which arose through metathesis: *Izdrailь* 'Israel', *izdrešti* 'utter'

but *zrakъ* 'sight[25]. In LS *r* changed into *š* after *k*, *p*, *t* before a vowel, e.g. *kšaj* 'land', *pšoso* 'millet', *tšubiś* 'trumpet', cf. R *kraj*, *próso*, *trubít'*, but not in the clusters formed by metathesis, e.g. *krowa* 'cow', *prjedny* 'first', *strowy* 'healthy' (The prefixes and prepositions *pre-*, *pred-*, *prez-* became *pśe-*, *pśed-*, *pśez-*).

b) In some of the early P manuscripts the prepositions *s* (*z*), *w*, *ot* (*od*) occur in the forms *se* (*ze*), *we*, *ote* (*ode*) only before those words which lost a weak *jer* in the initial syllable, but also in many instances before the words in which the metathesis occurred, usually with FP (14× in the Psalter Floriański, 2× in the Gniezno Sermons, 5× in the PsPuł, 1× in the Great Polish court oaths), e.g. *we głosie* 'voice' (PF), *ze złotem* 'gold' (PF), *we śrzodę* 'Wednesday' (PP), *ze błota* 'mud' (PF. With RP!), *otewrociti* 'turn away' (PF), etc.

c) In some loan words of the time of disintegration of CS the foreign groups V + *r* + (same) V are rendered in SCe Sl (as evidenced by OCS) with the first vowel omitted: Gr τέρεμνον 'house' became (SChSl) *trěmъ* 'tower'; VLa *ceresia* is said to have become Cz *třešně* 'cherry', SC *trȇšnja*; OCS *sracine* 'Saracens' comes from MLa *saracēnus*, Gr σαρακηνός.

Preservation of *zr* in OCS and of *r* after voiceless stops in LS are considered to be due to the presence of a vowel glide between the consonants in question and the following *r*. The vowel *e* after the prepositions *s*, *w*, *ot* in P is characterized as compensatory lengthening of their final *ъ*, caused by the fall of this vowel glide in the next word. The loss of the first syllable vowel in loan words from MLa and MGr is considered as one more manifestation of the general loss of a vowel preceding the sonant followed by *ě*, *a*.

Most of these arguments do not stand up to criticism. The lack of *d* in OCS *zrakъ* (incidentally the only example of the sort) and the lack of assibilation of *r* in LS after *k*, *p*, *t* only show that both processes were unproductive at the time of the completion of metathesis. As for SChSl *trěmъ* and its counterparts in the other Sl languages it is not proved that they were borrowed from Gr τέρεμνον; serious considerations are rather in favor of its Tu provenance, and a form like Qumanic *tärmä* 'ladies' chamber' or Mong *terme* 'wall' was a natural basis for the metathesis and pleophony in Sl. SC *trȇšnja* and the related words in the other Sl languages go back not directly to MLa or MGr but rather to OBav **chersia*. For the word *Sracine* one has to bear in mind the possibility of a rude reduction of a pre-pretonic vowel in VLa. Thus all these facts in no way prove that an anaptyctic vowel was pronounced between the consonant and the sonant in the metathesized CORC groups.

P data of the type *we głosie* may be more important but they too are altogether uncertain. They are rare outside of the Psalters referred to. Nothing like them was ever reported from OCz. It is plain that they cannot be generalized for Sl as a whole or even for the P-So group in its entirety. Even in the P manuscripts involved the distribution of *s*, *w*, *ot* vs. *se*, *we*, *ote* is rather inconsistent,

[25] Often the cluster *sr* is also quoted, as in *srěda* 'Wednesday'. But the change *sr* > *str* is a phenomenon of early CS and there are no traces of such a change in OCS (See 13, 6).

with two principles competing and overlapping: partly forms with vowels were motivated historically and appeared before those words which had lost a weak *jer* in their first syllable; but a new tendency was developing, to use these forms of prepositions merely before articulatorily "difficult" clusters, as, e.g., *we trzech* 'in three'. A serious argument, for P itself, is the word *zdrowy* 'healthy'. It goes back to **sudₒarv-*. If after metathesis (*sudrov-*) a vowel developed between *d* and *r*, it should have produced lengthening of the *jer* after *s* and Mo P or at least OP texts would have *+sedrowy*. As opposed to all other examples the initial part of this word did not vary contextually and, thus, conditions for the change *sŭ* > *se-* were here more favorable than anywhere else. The subject requires further research to obtain exhaustive evidence (all the cases in which *se/ze*, *we*, *ote/ode* occur in OP).

In addition, one detail may be mentioned concerning the later development of the metathesized groups in the individual Sl languages. In initial consonantal clusters which presented articulatory difficulties various anaptyctic vowels were used, e.g. Bg *čiren* 'haft' vs. Sn *črę̂n*, SC *crȅn*; SC *čéren* 'hearth' vs. P *trzon*; P *naróścíś* 'spawn' vs. P *pa-n(d)rowie* 'worms', etc. As the examples show, this occurs especially often in *čr*-clusters. Needless to say, these are facts of late date and special phonetic environments and cannot serve as proof of an anaptyctic vowel in CS.

14. Chronology. The relative chronology of the changes in CORC groups is established in 26,4 and 8 and in this chapter, section 13[26]. Their de-diphthongization preceded the split of *ₒă* into *ā* and *ŏ*, but later stages of the CORC-group changes overlapped with this split, in a different way in the four areas in which Sl was divided with respect to CORC-group treatment.

To judge by OSw *narhval* 'whale' as rendered in R *vórvan'* 'train-oil', without pleophony but with *o* from *a* under stress, in NE Sl dialects the delabialization of *ₒā* could even have been preceded by the rise of pleophony. But this example is uncertain because it underwent many mutilating changes: assimilation of *l* to *n* (**narhvan*), assimilation of *n* to *v* (**varhvan*) and folk-etymology (*vórvan'*). From the development of pleophony itself the relative chronology cannot be established, but from the scarce examples of what can be labeled "*a*-pleophony" it may rather be deduced that the split of *ₒă* came first and the pleophony second[27].

As for the delabialization of *ū* into *y*, it preceded the metathesis of CORC groups: cf. OPr *waldwico* 'knight', corresponding to OCS *vladyka* 'ruler'. In the

[26] In this section the developments of all four CORC groups are treated together. In reality the four developments were not necessarily simultaneous. As shown in section 11, M and Bg have remnants of old forms only in the CₒalC type, WB Sl dialects only in the CₒarC type. This probably indicates that each or some of the four groups had a history of its own. But these details are hardly reconstructible.

[27] The "*a*-pleophony" is represented in such words as R *baraxló* 'goods and chattels' – cf. U *bórošno* 'flour'; U *balákaty* 'talk' – cf. # grade in U *bóvknuty* 'blurt out', P *belknąć*. It may be explained by affective lengthening of the vowel in CORC groups, which became *ā* and consequently claimed another *a* after the sonant.

OPr form *y* is rendered as *i*, but there is no metathesis yet. On the basis of an analysis of Sl loan words in Fe, of the type Fi dial *värtsi* 'sack', Kar *värt'tši*, Vot *värttsi* based on Sl **v*$_e$*artj*$_o$*ā* (SC *vrěća* 'sac', SChSl *vrěšta*) where there is not yet pleophony but *tj* yielded an affricate, it has been established that the changes of *tj* preceded the final stages in the development of CORC groups.

As usual at that time loan words and place-names help establish the absolute chronology of the metathesis and pleophony (but not that of the initial dediphthongization).

At the time of the first Sl-Fi contacts no pleophony had yet developed in the Sl dialects of the NE: Fi *palttina* 'linen', *talkkuna* 'oatmeal', *taltta* 'chisel', *varpu(nen)* 'sparrow', *värttinä* 'spindle', *karsta* 'snuff' correspond to R *polotnó*, *toloknó*, *dolotó*, *vorobéj*, *veretenó*, *korósta*; Mordvinian has *orta* 'gate', probably from Sl **v*$_o$*art*$_o$*ā* (R *voróta*). Later pleophonic forms are rendered with two vowels, e.g. Fi *tarakka* 'double sacks (on two sides of the saddle)', Vot *pärähmä* 'armful' (R dial *toróki*, *berémja* 'load'). On the other hand, early Fi loan words in Sl underwent the general pleophonic change: Fi *salmi*, *kalmisto* appear in Old Novgorod as *solómja* 'strait' (also present-day NR), *kolomišče* 'cemetery'. The Est river-name *Narva(jogi)* appears in OR as *Norova* (Mo R *Naróva*).

Le has a few borrowings from Sl of the time when CORC groups still existed, e.g. *kaĩps* 'attendant', dial *kārms* 'building' (R *xolóp*, *xorómy*). Br *Palóta*, river-name (Cf. *Pólack*, city-name), is probably based on a Balt *-al-* form (Le *paĩts* 'puddle'). Li material is uncertain, but *šálmas* 'helmet' no doubt goes back to Sl **š*$_e$*alm-* (U *šolóm*).

In the SE OR *Tъmutorokanь*, city-name, is borrowed from Tu *tamantarkan*, a dignitary. The city was probably founded in the early eighth century, and the Slavs became intimately acquainted with it in the tenth.

Early Sl borrowings from Germ naturally underwent the normal development of CORC groups, e.g. Go *weinagards* 'vine, vineyard' which became SC *vìnogrād*, etc.; Go **walhs*, a Romanic people (OHG *walah* ~ *walh*) is reflected in U *volóx* 'Romanian', P *Wloch* 'Italian', Sk, Cz *Vlach*, SC *vlăh* 'Romanian'. Germ dialects of the SE Alps have the word *Dalken* ~ *(Haber)talken* 'oatmeal', based on CS **t*$_o$*alkŭn-* (R *toloknó*), i.e. on a pre-metathesized form. The oldest loan words from OBav entered Sl before the metathesis: OCS *kramola* 'discord', OR *koromola*, P *Kromołów*, place-name, from OBav *karmala*. Cz *Svratka*, river-name (in Moravia), comes from G *Swartahva* (now *Schwarzach*). The older Germ place-names of Sl origin also reveal no traces of metathesis, e.g. *Perschling*, place-name, from **b*$_e$*arzinīc*$_o$*ā* (Sn *bréza* 'birch'). Compare Sn *Bled*, place-name, with its Germ name *Veldes*. In *Waltunc*, a Sl chieftain in Carinthia, in Fredegar's Chr, one can see Sl **v*$_o$*aldūk*$_o$*ā* (Sn *vladíka* 'bishop'). NG place-names of the type *Birznig* (See section 11) prove that at the time of the German settlement in these areas (roughly after 782) the metathesis was not yet terminated.

Much significance was attached to the word represented by ChSl *kraljь* 'king', R, U *koról'*, Br *karól'*, P *król*, OSo *krol*, Sk *kráľ*, Cz *král*, Sn *králj*, SC *krālj*, M, Bg *kral* which stems from OLG *Karl*, i.e. Charlemagne. As Charlemagne died in 814, the early ninth century was thought of as the time of the metathesis

and pleophony on the basis of CORC groups (and also as the time after which an undivided CS ceased to exist). Actually the example is inconclusive. The word was not borrowed from German by all the Slavs. It was the Polabians who first adopted it and then it migrated from one Sl tribe to another. It reached M, Bg and ESl much later, presumably through written channels. Phonetically it is a typical instance of a series of sound substitutions, frequent in the inter-Slavic borrowings (Cf. U *ofíra* 'victim', from P *ofiara*, U *djákuvaty* from P *dziękować* or Cz *děkovati* 'thank'). As to the chronology of the CORC-group developments, the word shows only that the metathesis and pleophony were not completed during the early ninth century but does not say when they were, nor even whether they started about 814 or later.

Rm has three words of Sl origin without metathesis: *báltă* 'swamp', *dáltă* 'chisel' and *gard* 'fence'. It is characteristic that the same words occur in Alb (*báltë* 'mud', *dáltë*, *gardh*). Cf. also NGr βάλτος 'swamp'. It was probably the "pan-Balkan" character of these words which contributed to the preservation of non-metathesized forms in Rm when in Sl they became (Bg) *bláto*, *dletó*, *grad*.

Quite a few toponyms of Yugoslavia and Bulgaria penetrated into Sl from the local Rom parlance early enough to undergo the metathesis, e.g. Sn *Kránj(sko)* 'Carinthia', from *Carnia*; SC *Krâs* 'mountain ridge', from *Cars-* (Cf. German *Karst*); *Crês*, island-name (in Dalmatia), from Ill **kerpso-* (Cf. It *Cherso*); *Splȉt*, city-name, from *Spel(e)tum*; *Skràdin*, city-name (in Dalmatia), from *Scardōna*; *Mljȅt*, island-name (in Dalmatia), from *Mel(i)ta*; *Srêm*, land between the Sava and the Danube, from *Sirmium*; MBg *Srědьcь* 'Sofia' from *Serdica*, etc. Among the common words may be cited MLa *calcia* 'stocking, shoe' (Friulian *tχaltse*) which appears in SC as *klȁšnja*, Bg *klašník* 'kind of dress', Sn *hláče* 'trousers', SC *hlȁče*, U *xolóši*. Cf. also Sk, Cz *mramor* 'marble', Sn, Bg *mrámor*, SC *mrȁmor*, OR *moromorъ*, from La *marmor*.

Finally, Gr abounds in toponyms of Sl origin taken on before the metathesis, e.g. Γαρδενίκια (Laconia), from **G*ₒ*ardiniku*, Βάλτουκα (Messenia), from **B*ₒ*altuk-*, Δερμπούνι (Arcadia), from **T'*ₑ*arbūnī*, Βεργουβίτσα (Achaia), from **B*ₑ*arg*ₒ*avīc*ₒ*ā*, etc. Also in common nouns as σάλμα 'straw' (Epirus), μέρζα 'net' (Thessaly), μπαρδαβίτσα 'wart', cf. M *slama*, *mreža*, *bradavica*.

Thus the Slavs still preserved the CORC groups at the time of their first contacts with the Finns, the Baltic peoples, the Germans from the Baltic Sea to the Alps, the Romanic population of the Balkan peninsula, and the Greeks. The large number of pre-metathesis (or pre-pleophonic) words of Sl origin in the languages of these peoples as well as of metathesized words borrowed from these languages shows that CORC groups were not abolished in Sl until some time after the early Sl contacts with these peoples. CORC groups must have existed in Sl for at least a century or two after the beginning of these contacts.

Translated into the language of absolute chronology this means that the elimination of CORC groups in Sl could not have occurred before the ninth century. Considerations of relative chronology place the metathesis and pleophony even a little later, in the mid-ninth century. As shown, it occurred after the rise of *y* from $\bar{u}_1$, which took place in the ninth century (See 26,4), and

overlapped with the delabialization of $_oa$, a change of the mid-ninth century (See 10,5); finally, it was slightly forestalled in many dialects by the metathesis of ORC groups, which also occurred in the mid-ninth century (See section 5).

For the SCe group the time of the metathesis may be established as around 860; a little later it spread to P-So and WB groups, while pleophony developed in the East. The approximate date of 860 is confirmed directly and explicitly by the fact that the first OCS texts were composed in and after 863, in which the metathesized forms prevailed; but the period of optional choice between metathesized and non-metathesized forms was still recent (type *alni* ~ *lani*, etc.), and it may well be that in the original texts, no longer extant, the number of free variations was larger.

It is also since about 860 that German, It and Gr documents and chronicles which fix some Sl names of persons and places contain the forms with metathesis. Before that time, e.g., Byzantine chronicles mentioned Βαλδίμερ (Georgius Monachus Continuatus), Δαργαμηρός (Theophanus, *Chronographia*), Περσθλάβαν (Scylitzes-Cedrenus, *Historiarum Compendium*), cf. Bg *Vladimir*, *Dragomir*, *Preslav*. The turning point in the rendition of names of that type was about 860. This also applies to the Sn area. It is in 860 that the name *Trebinam* is recorded (**Trěbĭnā*), in 864 *Zebedrach* (**Sobědragъ*) in Salzburg charters, etc.

One or two apparently metathesized forms of earlier period are puzzling. Such is *Dragowitus*, name of a Sl duke of Lutichians (Wilci) in Pomerania, East of Rostock, recorded in 789 in Einhard's *Annales* and repeated in many more contemporary chronicles. Yet the record is not reliable. Precisely in Pomerania a non-metathesized form would be much more probable in a C$_o$*ar*C group. The recorded form seems to be a distortion typical of many records made by foreigners. If the form reflects any reality it is the rendition of a syllabic *r̥* (*Dăr̥gavitŭ*) grasped by a foreigner as *r* followed by a vowel.

15. Conditions and effects. Historical background. The elimination of *r* and *l*-diphthongs seems to have been the final link in the series of changes which gradually abolished all the diphthongs inherited from IE: *u*, *i*, N and liquid diphthongs. Metathesis and pleophony happened to be the last, long delayed acts in the sequence of sound changes which drastically restricted consonantal clusters in CS. Both constituted belated moves toward a „vocalic" language, characterized by open syllables and, within the syllable, by the summit of tonality placed on the last component of the syllable. They were belated for, after the first palatalization of velars, the new developments undermined and were eventually to overthrow the very tendency toward a consistently "vocalic" language.

Because of the rapid growth of the inventory of consonants and their alternations and because of this delay in the change of CORC groups it is doubtful whether the tendency toward a „vocalic" type of the language and toward open syllables could still have operated in Sl with any strength. Therefore the main impetus for the CORC-group change is to be sought elsewhere. As shown in 20,7, *r* and *l*-diphthongs were diphthongs functionally much more than

phonetically. Their status as diphthongs was maintained chiefly by their identity with *u* and *i*-diphthongs in function and type of alternations. The loss of the latter two deprived the "functional diphthongs" of motivation. Their situation grew still worse with the loss of nasal diphthongs. The system of vowel alternations by that time had become a heap of debris. Under these circumstances *r* and *l*-diphthongs dragged on by tradition alone. Consequently the increase in number of syllables of the type (C) + C + V which was brought about by metathesis and pleophony was but an accidental side effect of the restructuring of CORC groups.

The elimination of *r* and *l*-diphthongs did not essentially affect the Sl system of vowels of the time, as presented in 26, 11, except that it eliminated the two lower "floors" represented there as

$$\begin{matrix} {}_{e}ar & {}_{o}ar \\ {}_{e}al & {}_{o}al \end{matrix}$$

(In reducing the number of vowels or "functional vowels" it contributed to a certain extent to the forthcoming switch in Sl from a "vocalic" language to a more "consonantal" language). Otherwise, after the loss of these diphthongs the system remained as unbalanced and in need of reshaping as it was after the second delabialization of rounded vowels (Details in 26,11).

The loss of *r* and *l*-diphthongs had a destructive effect on the system of vowel alternations, especially in those Sl dialects which introduced metathesis. In the series of alternations, say

$$o\mathrm{R} : {}_{e}a\mathrm{R} : \breve{u}\mathrm{R} : \breve{\imath}\mathrm{R} \text{ (from IE and early CS } o\mathrm{R} : e\mathrm{R} : \mathrm{\mathring{R}}\text{)}$$

the cohesion of the alternants and the motivation for their choice were by that time profoundly disturbed. But after metathesis even the identity in order of components and in quantity of the vowels became obliterated. In the reshaped series –

$$\mathrm{R}\bar{a} : \mathrm{R}\acute{e} : \breve{u}\mathrm{R} : \breve{\imath}\mathrm{R} \text{ (SCe variant)}$$
$$\text{or } \mathrm{R}o : \mathrm{R}{}_{e}a : \breve{u}\mathrm{R} : \breve{\imath}\mathrm{R} \text{ (P-So and WB variants)}$$

even this shadow of identity was lost. The only common denominator in the series which remained was the identity of the consonants, *r* or *l*. The distribution and the place of vowels became largely unmotivated. This was again, in the long run, a step toward the "consonantal" type of language.

Two more details deserve mention as they characterize the development of CORC groups and also mark and introduce a new period in the history of Sl. The elimination of CORC groups was a change which began as CS (the stage of the de-diphthongization), but whose continuation and completion was left to the already separated dialects and dialect groups. Begun as CS the change was finished as Sl, with four differing responses to the common challenge. Some dialectal variations were observed in several preceding sound changes, but this one showed the disintegration of CS on a much larger scale. This was an inevitable consequence of the political and cultural rift among the Slavs. The period of their migrations was marked by unstable and overlapping dialectal

divisions. It was in the regularity of this irregularity alone that a certain Sl unity still was maintained. Now for the Slavs the time of migration was essentially over. New points of concentration, new cultural and political centers and areas of influence began forming. The Sl nations of times to come began taking shape. Some of the Sl tribes proved to be affected most of all by Byzantium, others by the Germans, still others found themselves in the orbit of Fe and Tu contacts and reciprocal influences. The forthcoming occupation of Pannonia by the Hungarians (894) and the gradual crystallization of Romania north of the Danube only emphasized and accelerated, by splitting the Sl territory into two disconnected parts, what was to be brought about anyway by the centrifugal forces developing within Slavdom itself. Political struggles among the embryo Sl states and incipient differences in religion were to play an even more important role in separating certain groups of Slavs from the others than was a "geographical wedge" struck in by the Hungarians. In short, it was a time when Sl unity no longer existed but when the separate Sl nations were not yet formed.

The isoglosses of CORC groups reflect this situation ideally. They are not yet national. They still encompass, each of them, aggregates of tribes. At the same time they rarely cross what later became the boundaries of Sl nations and languages. They do so only in the case of Sk and P. In Sk they oppose CeSk to the other Sk dialects. In P they oppose north to south. Otherwise they neatly enclose what were to become nations. SCe covers Cz, Sn, SC, M, and Bg; the Slavs of Pannonia, later submerged in the Hung flood in all probability belonged here too. The Eastern group foreshadows the coming rise of the three ESl nations. The boundaries separating the three still do not affect the change, but the boundary between these three and all other Slavs is established. Sorbian is separated from the Baltic Slavs (later mostly Germanized). The overlapping of these isoglosses with some of those which had run through the Sl area prior to this change outlined to a certain extent the divisions within the four groups established by differences in the treatment of CORC groups. Yet, and this is an important difference between the new situation and the old, in most cases the older isoglosses did not coincide with future national boundaries.

The other detail which is worth mentioning concerns pleophony in ESl. This is a kind of vowel harmony within a disyllabic unit, if not the word as a whole, whereby a vowel adapts itself to the vowel of the preceding syllable. Is it by accident that pleophony developed in the Eastern group, i.e. in the group which at that time was exposed more than any other[28] to contacts with Fe and Tu tribes, whose languages followed the principle of vocalic word harmony? The question cannot be answered either way, for want of concrete and conclusive evidence. But the probability of such an effect of areal contacts cannot be simply refuted.

To summarize, the modification of CORC groups, while the last episode in the series of changes that brought about a "vocalic" type of language, was at the same time one of the first steps in destruction of this type. While a CS

[28] The Avar problem no longer existed in the SCe area at that time.

change, at least in the beginning, it was one of the first changes in which the Sl nations, then in formation, began taking linguistic shape. The contradictory character of the change of CORC groups thus reflected the critical condition of Sl as it faced the forthcoming drastic changes in its structure, which condition in turn was linked to the preceding period of turbulence in the history of the Slavs.

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28. RISE OF *e* AND NEW *O*

1. General statement. 2. South-Central group. 3. Northern group: Evidence of the attested languages. 4. Northern group: Reconstruction of the process and chronology of the change in the eastern part of the area. 5. Northern group: Reconstruction of the process and chronology of the change in the western part of the area. 6. Outlook

1. At approximately the same time as the alteration of CORC groups *ea* also underwent some changes. Judging by the results of these changes the Sl dialects of the time fall into two groups. The South-Central group coincides with that established in the treatment of CORC groups. In terms of the later Sl languages it includes Sk, Cz, Sn, SC, M, and Bg. The other group, which for this discussion may be labeled Northern, encompasses three other groups as posited in chapter 27: WB, P-So and Eastern, i.e. the future Pb, So, P, U, Br, and R languages.

In the SCe group *ea* changed into *e*. In the NE group *ea* split and yielded partly *e*, partly *o*, the distribution of the two varying according to the dialects.

A more precise chronology of these changes in the various dialects will be attempted in sections 2, 4, and 5.

2. South-Central group. In the SCe group of Sl dialects *ea* was simplified into *e* in all positions. Basically this *e* is still preserved, except for individual deviations of a later date in isolated words or minor groups of words like Sk *smotana* 'cream', Bg *čóplja* 'pick', etc. Under secondary lengthening, also of a later date, Sk changed *e* into *ie*, Cz (mostly colloquial) into *í*, e.g. Sk *niesť* 'carry', Cz colloquial *níst* (high standard *nésti*).

The rise of *e* from *ea* occurred after the lengthening of *ea* in C*ea*RC groups. This follows from the fact that this lengthened *ea* unequivocally coalesced with *eā* (*ě*) which very soon after underwent a series of new changes either becoming a diphthong of the *ie*-type (OCz, SC) or splitting into *e* and *a* (Bg), etc. Thus the qualitative identity of *eă* and *eā* which was still present at the time of vowel lengthening in CORC groups ceased to exist soon afterwards in most of the SCe group. There is no evidence to support the contention that *ĕ* and *ě* were still qualitatively identical at the time of the actual metathesis in CORC groups. In terms of absolute chronology, consequently, the change *ea* > *e* in the SCe group of dialects may be placed approximately in the mid-ninth century, the period after the lengthening but presumably before metathesis in CORC groups. Loan words of early Christian times do not contradict this statement, e.g. OCS *dekębrjь*, from Gr δεκέμβρι(ο)ς 'December', *lentii* 'sheet', from Gr λέντιον, Sk *anjel* 'angel', from La *angelus*, Cz *kostel* 'church', from La *castellum*, etc., with *e* rendering the *e* of other languages and with no indications of an older *ea* pronunciation of the Sl vowel.

3. Northern group: Evidence of the attested languages. In the N group the situation is more complex. It is expedient to present first the data of the languages in question as they are attested today and in the extant records. As this material is needed here for reconstruction of an older stage, only the main lines of the development will be characterized in each case while minor subsequent details will be ignored. They belong to the histories of the separate languages.

In R three shifts of what originally was $_ea$ to *o* are discernible:

a) After hushing consonants unless followed by a front vowel in the next syllable. In SR and standard R owing to *akan'e* the situation is clear only under stress; NR has an identical development in both stressed and unstressed syllables. Examples (from standard R): *rasčësyvat'* 'comb', *žólud'* 'acorn', *ščëki* 'cheek' (pl) vs. *čéšet* 'comb' (3 sg), *žénskij* 'feminine' (<**ž*$_e$*anisk-*), *šest'* 'six' (< **š*$_e$*asti*).

b) In initial position after *j* (subsequently lost) unless followed in the next syllable by *ь* or *ъ* (*ĭ*, *ŭ*). Usually this is attested in a stressed or a pretonic syllable, e.g. R, U *ózero* 'lake', Br *vózera* vs. P *jezioro*, SC *jȅzero*; R *olén'* 'deer', Br *alén'*, U *ólen'* vs. Cz *jelen*, M *elen*; R *ósen'* 'autumn', Br *vósen'*, U *ósin'* vs. Sk *jeseň*, Bg *ésen*; R *osëtr* 'sturgeon', Br *asëtr*, U *osetér* vs. P *jesiotr*, SC *jèsetra*; R *ol'xá* 'alder', Br *vól'xa*, U *víl'xa*, vs. Sk *jelša*, Bg *elxá*; R *odín* 'one', Br *adzín*, U *odýn* vs. US *jedyn*, Sn *éden*, etc.; but in the position before *ь* or *ъ*: R *el'* ~ *ëlka*[1] 'fir', cf. Sn *jȩ̂l*; *ëž* 'hedgehog', U *jižák*, cf. P *jeż*; R *ërš* 'ruff', U *jorž*, cf. Li *erškė̃tis* 'thorn bush'; R *est'* 'is', Br *josc'*, U *je(st')*, cf. Cz *jest*; R *ërzat'* 'fidget', with uncertain etymology, but an alternation with *eryznút'* points to an original *ŭ*; R *edvá* 'hardly', cf. OCS *edъva*[2]. The relationship between forms with and without *ь* is well examplified by the opposition R *ovín* 'barn' vs. Br *ëvnja*, the first going back to OR *ovinъ* (< **j*$_e$*avīnu*), the second to **jevьnja*, cf. Li *jáuja* 'barn'. The same is true of the relationship between R *ëž* and Br *vóžyk*.

c) In all positions except before a soft consonant (in *akan'e* dialects naturally only under stress), e.g. *sëla* 'village' (pl), *tëplyj* 'warm', *tëk* 'flow' (sg pret), *vsë* 'all' (neut). Hushing consonants in this change are treated as hard consonants, e.g. *lëža* 'lie' (gerund), *dëševo* 'cheaply'.

This shift apparently was not shared by quite a few scattered SR dialects. The absence of *o*-reflexes is established for the area west, south and east of Rjazan', in the Demidov rajon of Smolensk oblast, Suzemka rajon of Brjansk oblast, Vadinsk rajon of Penza oblast, etc.

Br has the first two shifts like R, e.g. after hushing consonants: *žólud* 'acorn', *ščóki* 'cheeks', *šósty* 'sixth' vs. *šesc'*, *žónka* 'wife' vs. *žënicca* 'marry' (3 sg).

[1] In this word as well as in many following, *o* (denoted as *ë*) belongs to the third layer (See c) as seen from the presence of *j*- which is always dropped in the words that have *o* owing to the second shift.

[2] Yet in this word *e* could alternate with *o*, cf. NR *odvá*, Sn dial *odvaj*, M dial *odva(j)*. This is the same alternation as in R *eščë* 'still', Br *jaščë* as compared to *OCS ješte*, P *jeszcze*, Pb *est*, Sk *ešte*, Cz *ještě* opposed to Sn, SC *još*, Bg *óšte*, M *ušte*, and to a certain extent as in R *ol'xá*, etc., as cited above, opposed to P *olcha*, Cz *olša*, SC *jóha*.

Examples for the initial-syllable reflexes are cited above, under b, along with R data. In the third shift however (Cf. *sëla* 'villages', *cëply* 'warm') there is a difference: hushing consonants do not act as hard consonants: *léžma* 'lying', *adzéža* 'clothes', *maléča* 'small children'.

Of these three shifts U experienced only the first two, i.e. after hushing consonants and *j*, e.g. *žólud'* 'acorn', *ščoká* 'cheek', *šóstyj* 'sixth' vs. *šestý* 'six' (gen), *žoná* 'woman' vs. *ženýtysja* 'marry' (< **žₑanīt-*), *joho* 'he' (gen-acc sg). Examples of the second shift are cited above, under (b), along with the R data. Yet in the NU dialects the change to *o* after other consonants is also found before hard consonants, albeit limitedly, as is seen from the fact that diphthongs which appear in place of *e* in syllables that became closed after the loss of jers are twofold depending on the character of the next consonant: *šiₑst'* 'six' vs. *t'uₒk* 'flow' (sg pret). Whether this difference encompassed positions other than the newly closed syllables cannot be ascertained because of the lack of evidence.

In P it is only before dentals followed by a non-front vowel that *o* developed from *ₑa*, e.g. *siolo* 'village', *brzoza* 'birch', *siostra* 'sister' vs. *sielski* 'rural' (< **sₑalisk-*), *brzezina* 'birch forest', OP *siestrze* (dat sg); before labials, velars and in final position *e* is used: *cieply* 'warm', *trzewia* 'intestines', *piekarz* 'baker', *brzeg* 'bank', *morze* 'sea'. In SP preceding labials apparently preclude the use of *o*: *wieslo* 'oar', *mietla* 'broom', *wiesna* 'spring' (Standard P *wioslo, miotla, wiosna*). Some of these SP forms spread over the whole left bank Mazovia so that *o*-forms characterize only the NW, Kashubian area and the NE (See, e.g. the map for *miotla* in *Maly atlas gwar polskich*, 2,94).

Pb also had twofold reflexes of *ₑa*, and the principle of their distribution is reminiscent of R and Br, although the reflexes differ qualitatively. Pb has *i* from *ₑa* everywhere except before syllables with a non-front vowel preceded by an historically non-palatal(ized) consonant. In the latter position *ₑa* has a more open reflex, viz. *e*. For example, *sist* (sîst) 'six', *císə* (ciesse) 'comb' (3 sg), *tílą* (tilang) 'calf', *víză* (wisa) 'house', *püli* (püeli) 'field', *joji* (gogi) 'egg' vs. *séstə* (sêste) 'sixth', *césăt* (ssêssat) 'comb', *teplû* (teplí) 'warm' (nom sg neut), *métlă* (mêtla) 'broom', etc. It is only in the position after *j* that what should otherwise be *e* is further split into *a* before dentals and *e* before other consonants: *jádlă* (gadela) 'fir tree', *janû* (ganni) 'one' (sg neut) vs. *znojémnə* (snogemne) 'acquaintance'.

Owing to suppression of the major part of the So territory, mixture of dialects extant and later sound changes,[3] there are in each So dialect numerous deviations which require special explanations, in many cases impossible because of the late start of So records (sixteenth century). Clarification of these cases, which are undoubtedly secondary, belongs to the history of So. For purposes of this analysis it suffices to characterize the bulk of the material without going into individual cases.

In LS, *o*-forms occur normally in final position and before any consonant

[3] In the seventeenth – eighteenth centuries *e* of any origin changed into *o* before *u̯* in US; *o* changed into *e* before front vowels and palatalized consonants in US and, to a lesser extent, in LS.

which was not followed by a front vowel and/or palatalized consonant; but statistically *o* is relatively more frequent before dentals than before labials and velars, e.g. *wjasoły* 'gay', *wjacor* 'evening', *mjod* 'honey'; *śopły* 'warm'; *daloko* 'far'; *njogo* 'he' (gen sg); *jo* 'is', *běšo* 'was' (3 sg impf), *dwanaśćo* 'twelve', *južo* 'already'. The number of *o*-forms decreases if one goes east; historical records from the eastern dialects have *o* before dentals exclusively (Megiser) or predominantly (Jakubica).

US has somewhat fewer *o*-forms, particularly in the SE. Most examples occur before dentals, but a few also before labials and velars, e.g. *wječor* 'evening', *wjesoły* 'gay'; *ćopły* 'warm'; *daloko* 'far' but *měd* 'honey' and also *jeho* 'he' (gen sg), *je* 'is', *běše* 'was', *dwanaće* 'twelve'; in general in final position *o* occurs as a rule only if supported by morphological factors, as in *polo* 'field' (but also *hižo* 'already'). The oldest records have *o* more consistently before dentals, e.g. nowadays *šesty* 'sixth', *sedmy* 'seventh' (LS *šesty*, *sedymy*) but in Warichius (sixteenth century): *šosty*, *sodma*.

It may be assumed, on the basis of these data, that originally WSo, especially WLSo, tended in distribution of the two reflexes of *ₑa* to the Pb type of development; while ESo, in particular the area of Mužakov, was close to, if not identical with, the P type[4].

In N Germany where the Slavs became Germanized and the features of their dialects may be reconstructed, if at all, only from place-names, the area adjacent to Ka clearly shows the P distribution of *e* vs. *o*: *Clonowe* (1291, now G *Klenau*, near Gdańsk), *Jesorcke* (1569, now G *Gissolk*, near Słupsk). Farther west *i* and *e* appear in a rather confusing manner, e.g. *Bristow* (Distr. Malchin, distr. Demmin), but *Vressow* (1240, now G *Fritzow*, distr. Kołobrzeg), both before dentals; *Meserechs* (1136) ~ *Mizerech* (1186), province between the Peene and the Tollense, etc. It was suggested that this confusion may be due to the fact that in older times what in Pb is recorded as *e* vs. *i* was *ę* vs. *e* (open *e* vs. closed *e*), which distinction was often ignored or not even perceived by the German settlers. Yet statistically *i* is rare before syllables with non-front vowels and/or non-palatalized consonants, so that roughly the Pb type of development may be presumed for this area.

4. Northern group: Reconstruction of the process and chronology of the change in the eastern part of the area. Before proceeding to a general attempt at reconstruction of the split of *ₑa* into *e* and *o* it is necessary to establish the interrelations between the three shifts which are obvious in R and possibly present in Br.

The first two shifts, after hushing consonants before a syllable with a non-front vowel, and initially after *j* unless followed by a syllable with *ь* or *ъ*, belong to prehistorical times. They left their traces in the earliest ESl recorded texts, the former due to occasional slips of the pen on the part of scribes (*čolověka* – Izb 1073, *tožo* – Gospel of Halyč 1144), the latter fairly often (*odinъ* – Gospel

[4] After all P also has instances, though very few, of *o* from *ₑa* before non-dental consonants, e. g. *pożoga* 'fire; site after fire', *poziomki* 'strawberry'.

of Archangel 1092, *osenьnjeje* – Mstislav's charter 1130). Before the time of the first records the latter also spread to borrowed names of Varangian origin (*Helga*, *Helgu* became *Olьga*, *Olьgъ*, with a secondary ь, presumably through **Jelga*, *Jelgu*) and of Byzantine origin, which could have come only with Christianity, e.g. U *Ostáp*, *Olena* from Εὐσταχυς, Ἑλένα etc., as well as in loan words of the period, as R *olád'ja* 'pancake', Br *aládka*, U *oládka*, from Gr ἐλάδιον 'oil cake', OR *opitemьju* (acc sg. Novgorod Chronicle), from Gr ἐπιτίμιον 'punishment', etc.

At first glance these two changes seem incompatible and, consequently, independent: the prerequisite of the first, absence of a front vowel in the next syllable, does not play any part in the second change. On the contrary, most examples of the second change are found before a syllable which has a front vowel. In reality however this discrepancy is only apparent. The original change of ₑa after both hushing consonants and *j* was a broadening of the vowel. It resulted from the absorption of the ₑ-on-glide by the preceding palatal consonant; much the same occurred to ₑā (ě) in all the Sl dialects at an earlier time (See 17.6). That the following syllable originally had nothing to do with this change is obvious from the fact that the same development took place in the final position. Thus after palatal consonants, i.e. at that time hushing consonants and *j*, ₑa > ă which, in due time, like every other ă (an allophone of ₒă) changed into ŏ. Somewhat after that change, by assimilation to front vowels in the next syllable, the new *o* changed into *e* after palatals (i.e. in the double palatal environment), while before syllables with non-front vowels and in the final position it remained unchanged. This constituted one more delabialization of rounded vowels typical of Sl of the time and it is at this stage that the next syllable did affect the vowel in question.

Between the two changes, however, initial *j* before *o* was lost, being interpreted as a kind of prothesis and, as such, unusual before *o*. By the same token further changes of *o*- in this position were precluded. This *o*- was to remain[5].

It follows from this presentation that what were called the first two shifts in the ₑa changes actually were one. In schematic presentation it consisted of the following stages:

1) ₑa > ă > ŏ after hushing consonants and *j*: *ščokā*, **šosti*, **joseni*[6];
2) Initial *j*- lost before *o*: *ščoka*, **šostь*, *osenь*[7];
3) Between a palatal and a syllable with a front vowel *o* > *e*: *ščoka*, *šestь*, *osenь*.

[5] Cf., in NR dialects, *ózero* 'lake' but *Kočezero*, *Kujezero*, *Mašezero*, etc., with *e* where the vowel was not initial.

[6] This situation recalls what is known concerning the transitional Cz – P dialect of Branicy (Distr. Głuboczyce in Silesia), in which *o* and not *e* appears after all palatal(ized) consonants: *ʒoń* 'day', *ćola* 'calf', *veʒoćo* 'lead' (2 pl), etc. How old this situation is in Branicy is unknown.

[7] Initial *j*-, as stated in section 3, was retained if ь or ъ followed in the next syllable. Consequently, words of the type (R) *elь* followed the pattern of *šestь*, not of *osenь*. Why *j*- was kept intact in these words is hard to determine precisely. Possibly it was because of the strengthening of the first syllable caused by the change of ĭ, ŭ into ь, ъ in the next syllable.

Thus, while otherwise $_{e}a$ yielded *e* in ESl, after palatals (hushing consonants and *j*) it split into *e* and *o* after having passed through a stage of *o*.

All these stages, except possibly the very first ($_{e}a > \breve{a}$) fall into the time between the rise of $\breve{o}$ from $_{o}\breve{a}$ in Sl and the Christianization of the Eastern Slavs, i.e. between the mid-ninth and mid-tenth century. It is not surprising that the results of these changes emerge in the texts of the eleventh century.

All these changes were conditioned by phonetic environment and had the character of assimilations, the first stage ($_{e}a > \breve{a} > \breve{o}$) within a syllable, the last one ($o > e$) on a larger, disyllabic scale; a moderate trend toward disyllabic harmony operated in this area at that time also in the rise of pleophony and some other developments (changes of *e*, *o* before "weak" *jers*; see 29,7).

As for the rise of *o* after all other consonants if palatalized, a process which in section 3 was conventionally called the third shift in $_{e}a$-changes in R, but actually was the second, it belongs to a different epoch. While in the above changes hushing consonants were palatalized, in the later shift they acted as "hard" consonants. It is clear, then, that this later shift took place after the hardening of hushing consonants (*š*, *ž* in R), i.e. not earlier than the fourteenth century. It had a dissimilative character and was a part of the trend toward enhancing the functional load of oppositions in the palatalization of consonants. Before *e*, consonants were palatalized automatically, i.e. extra-phonemically; with the change *'e* > *'o* there developed a phonemic opposition in palatalization before *o*.

In Br, where *'e* did not change into *'o* before hushing consonants it was a change of an earlier date than in R, prior to the hardening of hushing consonants, hence independent of the Russian one. Since written records cast virtually no light on this development (the Cyrillic alphabet denotes *o* after palatalized consonants as *e*) it is impossible to say how early it was. Nothing would preclude the assumption that in the Br area it was coeval with the first two shifts, provided that at that time all consonants were palatalized before *e* (See 31,6). Yet the problem must remain unsolved until some new evidence is found. The differences in reflexes of *e* in newly closed syllables in the position before a weak *ъ* as opposed to that before *ь*, typical of SBr (and NU), could prove that, at least in that part of Br the "second shift toward *o*" was completed no later than the middle of the twelfth century.

Thus the areal and chronological distribution of $o < {_{e}a}$ was:

mid-ninth – mid-tenth century: after hushing consonants and *j* – R, Br, U;

before the mid-twelfth century: after all other consonants – Br (and possibly NU);

after the thirteenth century: after all other consonants – R[8].

[8] The interesting problem of whether in the R dialects characterized as having had no change "*e* > *o*" (See section 3) it was only the third stage that failed to develop or also the first cannot be resolved because there are no data for the position after hushing consonants in these dialects.

5. Northern group: Reconstruction of the process and chronology of the change in the western part of the area. A clue to the developments of $_{e}a$ in the western part of the N group of Sl dialects is provided by Pb. In Pb, as shown in section 3, $_{e}a$ in the final position, which is relatively the most independent, yields the narrowest reflex: *i*, probably going back to *ẹ* as evidenced by remainders of Sl in NG toponyms. This was, then, a normal development of $_{e}a$ in this area. Only if followed by a syllable with a non-front vowel which was, in addition, introduced by a non-palatalized consonant did $_{e}a$ preserve its original character of an open vowel, by a way of a regressive assimilation or a kind of "passive" (prohibitive) *umlaut*[9].

In P narrowing did not go far enough to reach *i*, but in the split of $_{e}a$ it was likewise the first, narrower component $_{e}$ which was given preference as a reflex accepted without any special motivation. It is only before non-front vowels preceded by a hard dental that the broader component of $_{e}a$ took the upper hand, to be then transformed, like every *ă*, into *ŏ*.

The split is reflected as early as the oldest P written records, i.e. beginning from about 1136 (*Costol*, *Sostros*, *Potr* in the Bull of Gniezno). It took place, however, no earlier than the time of the conversion of the Poles to Christianity, as is evidenced by the participation of church loan words in the change: *kościół* 'church' < La *castellu*(*m*), *anioł* 'angel' < *angelu*(*m*), *Piotr* < *Petru*(*m*). This places the rise of *o* in the tenth or beginning eleventh century at the earliest, i.e. a little later than the first shift of $_{e}a$ toward *o* in the eastern part of the NE area. The date is confirmed by considerations of relative chronology. The new *o* from $_{e}a$ developed in P after the metathesis of CORC groups. Otherwise all $_{e}a$'s before *r*, *l* followed by a non-front vowel would have yielded *o*, so that instead of, say, *brzeg* 'bank' P would have +*brzog*, etc. The split of $_{e}a$ thus could have arisen when the configuration of components in words of this type was no longer **b*$_{e}a$*rg*-.

Far more important however than the slight difference in time is the striking opposition in direction. In the East the main line in the development of $_{e}a$ was toward strengthening its second component unless hindered by the phonetic environment; in the West, unless the phonetic environment prevented it, the first component prevailed. The reason for this may be seen in two factors: an earlier palatalization of consonants before *e* is to be assumed for the West (See 31,6); and greater independence of a syllable in relation to other syllables in the word. In the West the combination C + $_{e}a$ was so to speak left alone, and $_{e}a$ palatalized the consonant by the influence of its on-glide; in turn, the palatal-

[9] Which is not to be identified with German *umlaut* (eighth – thirteenth centuries) in its direction: in German a front vowel in the following syllable caused a shift of the vowel in the preceding syllable toward a more front articulation, while in Pb it was the converse. This *umlaut* was „active" in German, i. e. the vowel did undergo a change. Other changes in German are more like the WSl change: in OHG and OLG (AS) of the eighth – ninth century *u* > *o* before *a*, *e*, *o*; but *u*, *i* in the next syllable kept *u* intact, thus an example of a "passive" umlaut. Narrowing of $_{e}a$ into *i* in Pb is directly reminiscent of the change *ë* > *i* in both OHG and OLG and *ǣ* > *ē* in OLG.

ized consonant affected the following vowel and shifted it to a closer articulation. Apparently the power of disyllabic harmony, obvious in the Eastern area, was numb or absent in the West. This interpretation is corroborated by the peculiarities in CORC-group development here and in the East. In the West it proceeded within a syllable (metathesis) while in the East it encompassed two syllables (pleophony. See 27,1). Whether, again, this difference is to be linked to Fe and Tu contacts in the Eastern area and lack of these contacts in the West is a question which immediately arises but the answer to which remains a matter of speculation.

At any rate it is interesting to note – though possibly also a mere coincidence – that Pb exposed to contacts with German as the latter was developing *umlaut*, its own system paralleling what in Sl occasionally assumed the shape of disyllabic harmony, went further than P in assimilating the reflex of $_{e}a$ to the next syllable. In Pb, as shown, this assimilation operated through all non-palatalized consonants while in P it could penetrate only the non-palatalized dentals.

The situation in So is not quite clear, but it seems that the development of $_{e}a$ in that area was closer to the NE pattern (Dejna): the original universal reflex of $_{e}a$, i.e. *o*, later changed in many positions into *e*, was best retained in word final position and before hard consonants.

Hence, with all the external similarity of the final results in the East and the West, viz. the split of $_{e}a$ into a wider and a narrower vowel, in most languages into *o* and *e*, the two areas gave two independent and largely contrasting responses to the same challenge and, in addition, within either area local varieties developed[10].

6. Outlook. The elimination of $_{e}a$ whether carried out toward *e* alone (South) or toward *e* and *o* (or *ẹ* and *ɛ*) depending on phonetic environment (North), introduced a change in the system of Sl vowels. Complex vowels were eliminated in the subsystem of short vowels, and this subsystem regained its internal equilibrium. It now contained simplex monophthongs only, opposed as front non-rounded to non-front rounded:

$$\begin{array}{cc} \breve{\imath} & \breve{u} \\ \breve{e} & \breve{o}. \end{array}$$

In the Northern group, furthermore, *e* and *o* were kept close to each other by alternations within otherwise identical morphemes, e.g. in OP *siostra* vs. *siestrze* 'sister', etc. although at the outset these alternations, of course, were conditioned phonetically and therefore extra-phonemic. In fact, for the bulk of

[10] It may be added that neither in the East nor in the West was the split of $_{e}a$ into *e* and *o* (*ẹ* and *e*) a part of the change C$_{e}$*alC* > C*ol*C (See 27, 10) and nowhere were they concurrent. The change of C$_{e}$*al*C preceded pleophony (metathesis); the split of $_{e}a$ occurred soon after the rise of pleophony (metathesis). Even the conditions were not the same, although bearing some resemblance. And yet, in the long run, the two changes have a similarity both in their results (many cases of *o* arisen from $_{e}a$) and in general conditioning.

the Northern dialects *e* and *o* for a certain time became two allophones of the same phoneme.

With these changes the situation of the long vowel subsystem grew even more precarious. Of all its members only *ī* and *ū* still had an undisturbed opposition in length; the position of *ꞏā* (*ě*) became odd and this initiated the long series of shifts that mark the histories of the individual Sl languages. Both in time and in character these changes go beyond the framework of Sl as a whole, and are to be treated in the histories of the individual Sl languages. An idea of the variety of these shifts at least for standard languages and in the final reflexes is presented in 11,3. See also 34,4.

In the Northern area the split of *ꞏa* in all its varieties went hand in hand with the rise of palatalization in consonants before *e* and its alternants and with the growth of the phonemic opposition in palatalization of consonants. Only side glimpses of these processes were allowed in this chapter. The details again fall in the domain of the individual Sl languages. A general approach to the problem insofar as it concerns Sl language units broader than separate languages is attempted in chapter 31.

One aspect of the problem was omitted in this chapter: the interrelation between the reflexes of *ꞏă* and *ĭ*. Kept apart to a certain extent in the South and in the Western part of the North (Pb), in the rest of the Northern area they merged to a great extent with *e* or *e* and *o* and even participated in the regular development of the latter. This subject will be taken up in 29,14.

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29. RISE AND DEVELOPMENT OF *JERS*

1. Rise of *jers*. 2. Identification of *jers*. 3. Examples. 4. Problem of *jers* as reduced vowels. 5. Chronology of the rise of *jers*. 6. *ŭ* and *ĭ* not changed into *jers*. 7. Loss of stressability in *jers* and its immediate consequences. 8. Loss of *jers*: final position. Compensatory lengthening. 9. Loss of *jers*: initial syllables. 10. Loss of *jers*: medial syllables. 11. Loss of strong *jers*. 12. Chronology of the loss of *jers*. 13. Conditions. 14. Effects.

1. In the western and central parts of the Sl area, except in the northwesternmost outskirts, *ŭ* lost its labialization. This may be considered the last wave of delabialization in rounded vowels to characterize late CS. However the change of *ŭ* was not limited to delabialization. It also involved as a rule a certain centralization of the articulation so that the oral aperture became wider, the position of the tongue flatter and the articulation as a whole more slackened. The new vowel was of the [ʌ] type (ə). The original Glagolitic alphabet had a special letter for this sound; its counterpart in Cyrillic was ъ and it is with this letter that the vowel will be denoted here, in accordance with the tradition in Slavistics (For certain positions in which *ŭ* was preserved or became *y̆* see section 6 and 30,1).

The Eastern dialects of the Slavs, ancestors of R, Br, U and Sk, as well as the Southernmost, from which developed M and the Rhodopian dialects of Bg, and, finally, the border dialects of the NW which underlay Pb in the broader sense followed the trend only partially. In these three peripheral areas *ŭ* did not completely lose its labialization; nor were unrounding, flattening of the tongue and widening of the aperture pursued so far here as in the western and central regions. While in the latter *ŭ* > *ə* in these margin areas it was rather of the [ɔ] type, both in the degree of rounding and tongue height. It was thus but an incomplete or partial delabialization. It would be appropriate to denote the result as ъ̊, although in both OM and OR writing the letter ъ was used. Since the basis of Sl alphabet originated in Macedonia, it is quite possible that this was the original phonetic value of the letter, and it was in Bohemia, Moravia, Croatia, Serbia and Bulgaria that it was given the phonetic value of *ə*. In the discussion to follow ъ will be used to denote both dialectally distinguished variants ъ and ъ̊ without discrimination, and only where specification is important will the sign ъ̊ be resorted to. Thus the whole alteration may be presented as

ŭ ↗ ъ (Ce and W dialects)
ŭ ↘ ъ̊ (E, marginal S and NW dialects),

or indiscriminately *ŭ* > ъ, using ъ in its broader function.

An immediate corollary of the change *ŭ* > ъ was the change of *ĭ* in the same

direction articulatorily, i.e. toward a more "neutral" production, with lips less tense and the tongue flattened. Eventually, this could have brought about a complete merger of the reflexes of *ŭ* and *ĭ*, and this is what occurred ultimately in the W-Ce dialects (See section 10). This point was not reached in the East and South with their *ǒ*, so that in R, Br, U, Sk, and M (with some Bg dialects) the distinction has been preserved in the reflexes of *ŭ* and *ĭ*. The traditional denotation for the reflex of *ĭ* is the letter used for it in the Cyrillic alphabet, *ь* (For certain positions in which *ĭ* did not change into *ь* see section 6 and 30,1). The name *jers* from the name of the letters in the original Sl alphabets is conventionally used to denote both new vowels, *ъ* and *ь*, called back *jer* and front *jer* respectively.

There is no certainty that the W-Ce dialects, especially those from which Sn and SC arose, ever had two *jers*. It is possible that *ŭ* and *ĭ* coalesced there immediately in one single *jer*, which then could be denoted most conveniently as *ə*. But for simplicity two *jers* will be used in this chapter in reference to all Sl dialects of the time.

2. Identification of *jers*. In most of the Sl dialects the *jers* did not last long. In certain so-called weak positions they were soon lost, in other positions (strong) they merged with certain other vowels. It is only in Sn and Bg that a special phoneme of the *ə*-type has been preserved (spelled *e* in Sn, *ъ* in Bg). But in Sn, where it may represent both *ъ* and *ь*, it is not the only product of the two: in certain positions they yielded *a*. In Bg *ə* is the only continuation of *ъ*, but it also reflects CS *ǫ*; the reflexes of *ь* are twofold: *ə* and *e*.

The original presence of a *jer*, later lost, might be presumed always for those consonantal clusters which were not admitted in CS. As to which *jer* has been lost the answer is possible, on the basis of the later evidence of Sl, only if the first consonant is a velar or a hushing consonant. In the first case *ъ* is to be reconstructed, in the second *ь*. In R *knjaz'* 'prince' *ъ* is to be posited between *k* and *n*; in *čto* 'what' it is *ь*. As to R *pšeníca* 'wheat', *bdítel'nyj* 'vigilant' a *jer* no doubt separated the two initial consonants in each word but the present-day forms do not enable the student to establish which one. Occasionally this may be seen from the alternation series participated in by the morpheme at issue. E.g., *bdítel'nyj* : *budít'* 'awake' with *u*-alternants allows the reconstruction of *ъ*. This method is inapplicable to *pšeníca*[1].

In final position after consonants *jers* are to be reconstructed for all words, except a few prepositions and prefixes (OCS *iz* 'from', *bez* 'without', *vъz* 'up', *raz-/roz-* 'asunder', *ot* ~ *otъ* 'from'). Final consonants in R, and for dentals mostly also Br, U, P and So show which *jer* ended the word: palatalization of the final consonant is the trace of an original *ь*.

In written records OCS still preserves the *jers* accurately in KFr but there

[1] To be sure an alternation exists in this root too, etymologically. Cf. R *pixát'* 'shove', which points to the *i*-series alternation an allows the reconstruction of *ь*. But from the point of view of Mo R *pšeníca* and *pixát'* are completely dissociated.

are constantly growing indications of their decay in all the other texts. In OR many texts which are copies of OCS originals reflect the confused usage of the *jers* in the underlying texts. Thus, although the oldest Sl recorded texts contain valuable information about the *jers* they need interpretation and their evidence cannot be taken for granted.

For those *jers* which were not dropped the expected set of correspondences in the attested Sl languages is:

for ъ:	R, Br, U, Sk, M	*o*
	P, LS, US, Cz, Kajk (SC)	*e*
	Pb	*å*
	SC	*a*
	Sn	*a* or *ə*
	Bg	*ə*;
for ь:	Pb	*å*
	SC	*a*
	Sn	*ə* or *a*
	Bg	*ə* or *e*
	all other Sl languages	*e*.

Reflexes of *jers* before and after *j* and before *r* and *l* often differ and will be examined separately in section 6 and chapter 30. Yet even for "normal" positions this set of reflexes is to be applied cautiously because in many languages there are more or less frequent deviations and overlappings partly limited to certain positions, partly unaccounted for as yet in every detail. The situation is particularly intricate in Pb, So and Sk. In Pb along with *å* for both *jers* other reflexes are also found: *ė* for ъ and *a* for ь. In LS and US *o* is not uncommon instead of *e* from ъ and ь. In LS *a* is also found occasionally, but this is a later change of *e*, whatever its origin. Sk has triple reflexes for both jers: *o*, *e*, *a*. Isolated deviations occur also in other Sl languages.

Details of these irregularities belong to the histories of the individual Sl languages. Those which are important for the prehistory of Sl will be illuminated in sections 9 and 10. Generally speaking, they were brought about by blendings of dialects; by subsequent sound changes; or by confusions of various reflexes which originally were distributed positionally, i.e. depended on specific phonetic environments.

In contrast to the complexity of the situation in Sl, identification of *jers* from non-Sl IE languages is a matter of extreme simplicity. While Sl radically changed its *ŭ*, *ĭ* inherited from IE, all other IE languages treated these vowels in the most conservative manner. OI, Av, Gr, La, OIr, Go, Li have preserved *ĭ* unchanged and likewise *ŭ*, except that Gr changed it into *ü* (υ)[2].

3. Examples. a) ъ: OCS *pъtica* 'bird', R *ptíca*, NR dial, Bg *pótka*, Br *ptúška*, U *ptax*, P, LS, US *ptak*, Pb *pâtínəc* (patínatz) 'nestling', Sk *vták* 'bird', Cz *pták*, Sn

[2] *ŭ*, *ĭ* which arose in Sl before *r̥*, *l̥* (See 5,1) are not treated in this chapter. For this discussion see 30, 1–2. As for *ŭ*, *ĭ* from **-om*, **-em* in final position, see 15,2.

ptica, SC *ptȉca*; *pȁtka* 'duck', M *ptica* – cf. Li *putýtis* 'nestling', Le *putns*, OI *putrás* 'child', Av *puϑra-*, La *putilla* 'nestling';

OCS *tъkati* 'weave', R *tkat'*, Br *tkac'*, U *tkáty*, P, US *tkać*, LS *tkaś*, Pb *tắkăt* (takat), Sk *tkat'*, Cz, Sn *tkáti*, SC *tkȁti*, M *tkae*, Bg *təká* – cf. Le *tukstêt* 'knock', Gr τύκος 'hammer', OIr *toll* (< **tukslo-*) 'hollow', AS *đýn* 'press';

OCS *zъlъ* 'evil', R *zol*, Br *zly*, U *zlyj*, P, LS, US *zły*, Sk, Cz *zlý*, Sn *zèl*, SC *zȃo*, M *zol*, Bg *zəl* – cf. Li *(at)žúlas* 'rough', Av *zūrah-* 'injustice';

OR *vъšь* 'louse', R *voš'*, Br *voš*, U *vóša*, P *wesz*, Pb *vǻs* (woas), LS *weš*, US *woš*, Sk *voš*, Cz *veš*, Sn *ùš*[3], SC *vȃš*, M *voška*, Bg *vəška* – cf. Li *usnìs* 'thistle', Le *usna*, Alb *usht* 'ear (of corn)'.

See also in etymological dictionaries OCS *dъxnovenie* 'breath', *drъva* 'wood', *sъdravъ* 'healthy', *sъsati* 'suck', *bъděti* 'be awake', *dъždь* 'rain', *mъšica* 'midge', *pěsъkъ* 'sand', *vъnъ* 'out', *lъža* 'lie', *kъto* 'who'; R *mox* 'moss', *ržat'* 'neigh', *krot* 'mole', *plot* 'raft', *rot* 'mouth', *lóžka* 'spoon', *dno* 'bottom', *Tósna*, river-name, etc.

b) ь: SChSl *stьblo* 'stalk', R *stébel'*, Br *scjabló*, U *stebló*, P *źdźbło*, Pb *stǻblű* (stablí), LS *splo*, US *stwjelco*, Sk, Cz *steblo*, Sn *stéblo*, SC *stáblo*, M *steblo* 'tree trunk', Bg *stebló* ~ *stəbló* 'stalk' – cf. Li *stìbis* 'penis', Le *stiba* 'staff, rod', OI *stíbhiṣ* 'panicle, bunch';

OCS *bьčela* 'bee', R *pčelá*, Br *pčalá*, U *bdžolá*, P *pszczoła*, Pb *céla* (zela), LS *coła*, US *pčoła*, Sk, Cz *včela*, Sn *čebẹ̑la*, SC *pčèla*, Bg *pčelá* – cf. Li *bìtė* 'bee', Le *bite*, OPr *bitte*, Ir *bech* (< **biko-*), OHG *bîa*;

OCS *lьněnъ* 'linen', R, Br *lën* 'flax', U *l'on*, P, US *len*, Pb *l'ån* (lgân), LS *lan*, Sk *l'an*, Cz *len*, Sn *lân*, SC *lȁn*, Bg *len* – cf. Li *linaĩ*, Le *lini*, OPr *linno*, Gr λίνον, Alb *linjtë* 'flaxen';

OCS *pьsъ* 'dog', R, Br *pës*, U, Sk, Cz, M *pes*, P *pies*, Pb *ṕås* (pyâs), LS *pjas*, US *pos*, Sn *pès*, SC *pȁs*, Bg *pəs* ~ *pes* – possibly related to OI *piśáŋgas* 'reddish, brown'.

See also in etymological dictionaries OCS *stьkl(ьnica)* 'glass', *osьlъ* 'donkey', *ovьnъ* 'ram', *lьgъkъ* 'easy, light', *dьnь* 'day', *lьstь* 'deception', *pьšenica* 'wheat', *pьcьlъ* 'hell', *mьstь* 'vengeance', *tьma* 'darkness'; R *mgla* 'haze', *pen'* 'stump'; P *pieprz* 'pepper', etc.

4. Problem of *jers* as reduced vowels. The *jers* are usually considered reduced vowels. In R philology they are customarily called *gluxíe glásnye* (surd vowels[4]), in P *półsamogłoski* (half vowels, cf. G *Halbvokale*), in Cz *neurčité vokály* (indefinite vowels), in French *voyelles ultra-brèves* (ultra-short vowels). These characterizations are based on the loss of weak *jers*, i.e. 1) in final position; 2) before a syllable with a vowel other than *jer* and 3) before a syllable with a *jer* which was not lost; e.g. R *dom* 'house' < *domъ*, *mgla* 'haze' < *mьgla*, *žnec* 'reaper' < *žьnьcь*.

There is no doubt that in these three positions (weak positions) in most Sl dialects the *jers* were shaky and subject to complete reduction. Yet this was not an absolute rule and some *jers* in all three positions mentioned have been preserved in some dialects of Sl (See sections 8–10). What is more important is whether the reduction which marked the *jers* in weak positions may be attributed to the *jers* as such, i.e. in all positions. If, for example, **dĭnĭ* > (OCS) *dьnь* 'day' was later to lose its final ь, which implies that it was reduced, does this mean that the first *jer* also first underwent reduction and was later reinforced, upon or prior to the loss of the second? If reduction is denoted as ‸ and reinforcement _ as the question may be presented as the alternatives

[3] For *u-* from *vъ-* see 19,10.

[4] Fortunatov, Ljapunov *et al.* called them irrational vowels.

**dĭnĭ > dь̭nь̭ > dь̱n(’)*

or

**dĭnĭ > dьnь̭ > dь̱n(’)*,

with subsequent merger of the first *ь* with *e* or another vowel.

There seems to be no evidence in favor of the view that *jers* in strong position, i.e. before *jers* to be lost, ever passed through a stage of reduction. A crucial fact in this respect is that in those languages which carried out lengthening of vowels about that time the *jers* were susceptible of such a lengthening the same as other short vowels, e.g. in Sk *dážď* ‘rain’, *šiel* ‘went’; Cz *déšť* (~ *dešť*), *stéblo* ‘stalk’; Sn *čâst* ‘honor’, *lân* ‘flax’, *vâs* ‘village’, *mâh* ‘moss’, *dân* ‘day’, *mânjši* ‘smaller’; SC *čâst*, *lâž* ‘lie’, etc.[5]. Of these lengthenings some might be secondary and due to analogy, but not all of them (On lengthenings see section 10 and 33,3). If *o* and *e* from *ъ* and *ь* respectively often do not undergo the narrowing and/or lengthening typical of *o* and *e* of other origin (as in U *kin’* ‘horse’ < *konjь* but *son* ‘dream’ < *sъnъ*, and not +*sin*, see section 8) this is due to a difference in chronology. When *o*, *e* were narrowed (and/or lengthened) if followed by *ŭ*, *ĭ* changing into *ъ*, *ь*, the *jers* still were far from being *o*- and *e*-type vowels and were closer to *u* and *i* respectively. The latter however did not undergo any narrowing and/or lengthening, whatever their origin. Schematically (for U):

stage 1: rise of *jers*: **konji > kọnjь*, **sunu > sъ̊nъ̊*;
stage 2: positional reduction of *jers*: *kọnjь > kọnjь̭*, *sъ̊nъ̊ > sъ̊nъ̭*;
stage 3: loss of weak *jers*: *kọnjь̭ > kọn’*, *sъ̊nъ̭ > son*.

For additional details see 33,3.

General considerations lead to the same conclusion. Phonemically, there existed in Sl an opposition of long and short vowels. There was hardly a place for some ultra-long or ultra-short vowels, a situation with a “three-storied” set of oppositions. This is not to be confused with reductions in certain specific positions. Being conditioned positionally, they did not introduce a new level of oppositions in quantity; it was on the allophonic level that the reduction affected the *jers*.

Thus labeling the *jers* reduced vowels as such is improper. They underwent reduction only in weak positions. Therefore, in this chapter the term “reduced vowels” is avoided and the conventional and non-committal term *jers* is used instead. It may be specifically defined, however: by *jers* are to be understood those Sl vowels which in weak positions were liable to reduction. “Reducible vowels” is another possible term.

5. Chronology of the rise of *jers*. While the loss of the *jers* at least in some areas of Sl settlement may be traced through the early written records of Sl, the rise of the *jers* falls entirely into prehistoric time. Nevertheless its chrono-

[5] SC *dân* ‘day’, *pânj* ‘stump’ are ambiguous because of SC lengthening before resonants.

logy may be readily established from an examination of fairly numerous loan words and toponyms.

Loan words from Germ are quite numerous. From Go through the time of early borrowings of Christian terminology from OHG foreign *ŭ* and *ĭ* are rendered in Sl as *ъ* and *ь* respectively, which means that during all that time *ŭ* and *ĭ* did not change into *ъ* and *ь*:

OCS *kotьlъ* 'boiler' < Go _*katil(u)s_;
R *bóčka* 'barrel', Bg *bъ́čva*, etc. < Germ _*bukjô_ (Cf. Eng. *bucket*)
U *bódnja* 'tub', SC *bàdanj*, etc. < Germ _*budin-_ (Cf. OEng *byden*);
P *jedwab* 'precious fabric', Sk *hodvab*, Cz *hedvábí* < Go _*gudawabi_;
OR *gъtъ* 'Goth' < Go *guta*, Sw *gute* 'inhabitant of Gotland';
RChSl *kъbьlъ* 'tub, bucket', SC *kàbao*, etc. < OHG _*kubil_;
OCS *lьvъ* 'lion', R *lev*, etc. < Go _*liwa-_ (OHG *lëwo*);
OCS *lьstь* 'cheat', R *lest'* 'flattery', etc. < Go *lists* 'cunning', OHG *list*;
OCS *-ьsk-*, suffix of denominative adj, e. g. *rimьskъ* 'Roman' < Germ *-isk-*, cf. OHG *rōmisk-*.

For vocabulary of the Christian church and civilization borrowed from Germ or La cf.:

OCS *mъnixъ* 'monk', Sn *mnìh*, etc. < OHG *munih*;
OCS *kъmotra* 'godmother', Cz *kmotra* < VLa *commāter*, with close *o* grasped as *u*, cf. Rm *cúmetră*; possibly an affective lengthening in R, Bg, etc., *kumá*;
OCS *mьša* 'mass', P *msza*, etc. < OHG *missa* ~ *mëssa*, La *missa*;
OCS *krьstъ* 'cross', SC *kȓst*, etc. < OHG *krist* ~ *christ*;
OCS *crьky* 'church', R *cérkov'*, SC *cȓkva*, etc. < OBav *kirkô*[6];
OCS *pьcьlъ* 'pitch', SC *pàkao*, etc. < La *pix*, *picis*;
OR *cьsarь* 'Emperor of Byzantium', R *car'* 'tsar', etc. < VLa *caesareus*, with *ae* pronounced as *ę* and possibly belonging to a somewhat later time when *ĭ* was becoming *ь* (Cf. OCS *cěsarjь* < Go *káisar*).

It is clear from these data that at least the first wave of Christianization reached the Slavs when they still had *ŭ* and *ĭ* in their language. Other sources confirm this observation. In their northern reaches the Slavs still had time to transmit to the Fe tribes some of their words with *ŭ*, *ĭ* not yet changed into *ъ*, *ь*, e.g.:

OR _*okъno_ 'window' > Fi, Vot *akkuna*;
CS _*t$_o$alkun$_o$a_ (R *toloknó* 'oat flour') > Fi *talkkuna*;
OR *tъska* 'anguish' > Fi *tuska*, Kar *tuška*, Est *tusk*;
OR *lъžьka* 'spoon' > Fi *lusikka*;
RChSl *dъxorь* 'polecat' > Fi *tuhkuri*;
OR *krьstъ* 'cross' > Fi *risti*, Est *rist*.

In place-names of Fe origin found by the Slavs in the territory of their new settlements the relation is the same. Fe *u*, *i* are rendered by Sl *ъ*, *ь* respectively:

OR *Velьjadь* (First Chr of Novgorod, 1240), i. e. _*Vьlьjędь_ < Est *Viljandi* (German *Fellin*);
R *Msta*, river-name (Cf. *Pomost'e*, place-name) < Fi *Musta* 'black', Est *must*;
R *Rus'* < OFi _*rōtsi_ 'Swedes'.

[6] The older borrowing of the word, probably from Go _*kirikô_, rendered Germ *i* as *ī*: CzChSl *cirъky*, OSn *circurah* (loc pl), US *cyrkej*, Cz *církev*.

OR *prě* 'sail', from Fi *purje* is to be reconstructed as **pъrě*, i. e. it was borrowed as **purě*.

The earliest borrowings from OSw still have the same pattern of substitution:

OR *betь*, i. e. **bьtь* 'toggle' < OSw *biti*;
OR *Gъlěbъ*, personal name < ON *Guđleifr*, OSw **Guđlēfr*;
NR dial *brjúdgá* 'bridesmaid', originally **brjutъga* < OSw *brûþtugha*.

The same relationship is found in the early Sl-Balt borrowings, e. g., for *ĭ*: OPr *tisties* 'father-in-law' from Sl *tьstь*, *sompisnis* 'rye bread' from Sl **sǫpьšeno*; for *ŭ*: *tuckoris* 'weaver' from Sl **tъkarь*, *siduko* 'sieve' from Sl *sitъko*, *somukis* 'lock' from Sl *zamъkъ*; for both *ĭ* and *ŭ*: *pyculs* ~ *pikullis* 'hell' from Sl *pьkъlъ*. Li *grìkai* 'buckwheat' goes back to Sl **grьka* attested in OR *grьčьnikъ* 'merchant who goes to Greece', *krìkštas* 'baptism', based on Sl *krьstъ*. Le has *dukurs* 'polecat', *Pliskava* 'Pskov', dial *krists* 'cross' from Sl *dъxorь*, *Plьskovъ*, *krьstъ*. Br *Nёman*, river-name, older **Němъnъ*, comes from Li *Nēmunas*. The Br river-names *Obša*, *Vop*, *Lba* through **Opъša*, **Vъpь*, **Lъba* go back to Li *Ápušė* (literally 'asp'), *Úpis* (Žem, literally 'river'), *Lubà*.

These data unequivocally show that *ŭ*, *ĭ* were preserved in these areas at least until the eighth century and probably throughout that century.

The picture is the same in the southern part of the Sl territory. In the Balkan area *ŭ* and *ĭ* in Rom words were rendered as *jers* in Sl borrowings, as were also unstressed *e* and *o*, which were characterized by a close aperture:

RChSl *mъstъ* 'grape juice', OCz, Sn *mest*, SC *mȁst*, Bg *məst*, from La *mustum*;
SChSl, OR *pьpьrь* 'pepper', P *pieprz*, Sk *piepor*, Cz *pepř*, SC *pàpar*, from La *piper*;
OR *gdunja* 'quince', SC *gdȕnja*, Bg *dúnja*, from La *cydonea* (through **gьdunja* or rather **gъdunja*);
OR *kъmetь* 'warrior', Cz *kmet* 'peasant', Sn *kmèt*, SC *kmȅt* 'elder', Bg *kmet*, from VLa *comite(m)* 'companion, attendant';
Cz *rmen* 'camomile', Sn *rmân* 'milfoil', from La *rōmāna* (length was abolished by that time in VLa).

The same relationships are found in numerous place-names such as SC *Drâč* < *Durrachium* 'Durazzo', *Tȃr* < *Turri(m)* 'tower', village-name (in Istria), *Lakljan* (**Lьkьljanъ*) < *Liciniana* (*insula*), island-name (near Dubrovnik), *Makar* (**Mъkъr-*) < *Muccurum* (Dalmatia). *Bȃg* (**Bьgъ*) < *Bigi*, town in the distr. of Bihać, *Bast* < *Biston-*, locality in Dalmatia; Bg *Bədin* < *Bononia* ~ *Bodonia*, city-name (now *Vidin*), etc.

In Rm only a few words borrowed from Sl preserved the erstwhile phonetic value of *ŭ*, *ĭ*, but what matters is that such words are attested: *sticlă* 'glass' < Sl **stiklъa*, *sútă* 'hundred' < Sl **sutъa*. Otherwise Rm normally substitutes *o* for *ъ*, *e* for *ь*: *dobitóc* 'cattle' < *dobytъkъ*, *oțét* 'vinegar' < Sl *ocьtъ*, etc.

Hung has *tiszt* 'officer; position' < Sl *čьstь*, *tukma* 'agreement' < Sl *tъkъma* 'even', and this is how *ъ* is rendered in 31%, *ь* in 24% of all cases (Décsy). In the other cases *jers* are rendered by *o*, *e*, *ö*, etc. Some of these are later borrowings (Sl-Hung contacts began later than Sl-Rm or Sl-Fi, so that many words could have been borrowed after the loss of *ŭ*, *ĭ* and even after the loss of the *jers*); others are due to typical MHung broadening and labialization of vowels, which developed actively in the tenth – fourteenth centuries. Thus in many Hung forms *o* goes back to *u* and *e* to older *i*.

Gr renders Sl *ŭ*, *ĭ* in its early borrowings as *u*, *i*, e.g. βούζιον 'elder' < Sl **bъzъ*, χούμελι 'hop' < Sl **xъmelь*; in place-names the relation is the same: Δίβριτσα < **Dьbrica* (Arcadia), Μοστίτσι < **Mostьcь* (Achaia), Σελίνιτσα < **Selьnica* (Laconia), Βάλτουκα < **Boltъko* (Messenia), etc. Cf. in Procopius (527–565, *De aedificiis*): Τρισκίανα < **Trьstěna*, castle in NW Bulgaria.

If OCS *kъnjiga* 'book, letter' is borrowed from OTu **küinig*, its *ъ* renders a foreign vowel which was associated with indigenous *ŭ*.

These examples imply that *ŭ*, *ĭ* remained unchanged in Sl through the sixth, seventh and probably eighth century. The invention of the first Sl alphabet, in 863, which had special letters for the *jers* in no way associated with *u* and *i* shows that by that time the original phonetic value of *ŭ* and *ĭ* had fallen into obsolescence.

The change of *ŭ*, *ĭ* into *jers* thus may be attributed to the time around 800.

6. *ŭ* and *ĭ* not changed into *jers*. In certain positions, dialectally or in Sl as a whole, *ŭ* and *ĭ* did not follow the general trend. They retained their original quality or they changed it but not into *jers*. This occurred before *j*, after *j* and, dialectally, before *r* and *l* belonging to the same syllable. The latter case will be examined in chapter 30, the first two are dealt with here.

a) In the position before *j*, *ĭ* has been preserved unchanged, i.e. without yielding *ь*. As to *ŭ* it did not become *ъ*, but changed instead into *y*, which presumably differed from *y* (< $\bar{u}_1$) in its brevity (*y̆*). The change *ŭ* > *y̆* before *j* was essentially a partial assimilation. Both the preservation of unchanged *ĭ* and the alteration of *ŭ* into *y̆* before *j* spread in all Sl dialects except the extreme NE, from which NR was to evolve. In the latter dialects the development of *ĭ*, *ŭ* before *j* did not differ from that in other positions, that is they gave *ь* and *ъ* (*ъ̊*) respectively.

In their further development *ĭ* and *y̆* before *j* followed the line of development of *ь* and *ъ* in that they were lost in the same (weak) positions as the *jers*.

The KFr, the oldest of the OCS texts and the only one written before the loss of *jers* in weak position, reflects the pre-*j jer* situation in late CS: as a rule it has *i* written before *j*, e.g. *oběcěnie̊* 'vow' (acc pl); examples with *y̆* are not so unambiguous, cf. *vьsemogyi* 'almighty'. Later OCS texts occasionally confuse *i* with *ь*, *y* with *ъ*. In many cases this confusion reflects the fact that none of the four letters in weak position corresponded any longer to phonetic reality. All four have become in this position a mere graphic device: *i*, *y* were spelled traditionally, *ь*, *ъ* because it was these letters which broadly denoted a ≠ vowel.

In other instances i.e in the strong position, a real confusion of *ĭ* and *ь*, *y̆* and *ъ* took place. It was conditioned morphologically and characterized especially the nom sg masc of compound adj and the gen pl of *i*-stem subst, and it certainly began prior to the loss of the *jers*. In the adj there was an interplay of nominal forms of the type *bělъ* 'white' and compound (pronominalized) forms of the type *bělъ* + *jь* > *běly̆jь* (spelled *bělyi*). From the nominal forms *ъ* was occasionally reintroduced into the compound forms, for in other genders the compound

forms preserved the endings of the corresponding nominal forms: *bělaja*, fem. was based on *běla*, *běloje*, neut, on *bělo*, etc. This reintroduced *jer* is probably represented as early as the KFr in spellings of the type *milostivъi* 'gracious', etc. After the change of strong *ъ* into *o* the latter occasionally appears in these endings, albeit rarely (Mar 3 ×, ES 2 ×, PS 7 ×) but often enough not to be simply discarded.

In the gen pl of *i*-stems *ь* was restored now and then under the influence of other oblique cases of the pl, e.g. *kostьjь* 'bone' (gen pl) instead of, and along with, phonetically normal *kostijь* (spelled *kostii*) following the pattern of the dat pl *kostьmъ*, instr pl *kostьmi*, loc pl *kostьxъ*.

In either case however the morphologically restored forms remained marginal and eventually were dislodged by phonetically regular forms, that is those with *i*, *y* (from *ĭ*, *y̆*).

As mentioned above, *ĭ*, *y̆* before *j* characterized all except the NE dialects of Sl. To be sure in OR manuscripts spellings reflecting *ej*, *oj* (in the spelling of the time mostly *ei*, *oi*) do not appear until the second half of the thirteenth century, e.g. *trei* 'three' (gen) in the Novgorod charter of 1263. It would be fallacious however to contend that the dialects of this area before that time had *i*, *y* from *ь*, *ъ* like other Sl idioms, and altered *i*, *y* into *e*, *o* before *j*. No conditions for such a change existed either in the phonetic environment or in the system of NR of the time. If such spellings did not occur in the texts written in Novgorod and Northern Russia and extant in originals before the middle of the thirteenth century (neither Kiev nor Smolensk count because there *i*, *y* were in usage) it is because the change of *ь*, *ъ* into *e*, *o* in strong position is in general a late phenomenon in this area. It is attributed to the thirteenth century (See section 12); furthermore, the pressure of both the OCS and Kievan systems of spelling contributed to writing *i*, *y* or *ь*, *ъ* before *j*, rather than *e*, *o*[7].

b) Only *ĭ*, not *ŭ* could follow *j* after the first delabialization of rounded vowels (See 18,1). The treatments of this *ĭ* in initial and medial syllables are to be examined separately.

In the initial syllable *ĭ* as a rule did not change into *ь* after *j*. Moreover, reinforced by the preceding *j* it was not lost in weak position and has been preserved until the present time as *i*, e.g. R, Bg *ískra* 'spark', Sn *ískra*, SC *ȉskra*. More examples as well as some apparent exceptions are cited in 16,3. As shown there, these exceptions are found in WSl (On Pb see below), Br and U. There are instances in which these languages have forms with *i*- lost so that the words begin in *j* + consonant or in this consonant alone. In fact there are only two words (roots) in which all these languages have *i*- or *i*- with a prothetic consonant: U *ínšyj* 'other', Br *ínšy*, P *inny*, Pb *jáinăm* (geinam) 'elsewhere', LS *hynakšy*, US *hinaki*, Sk *iný*, Cz *jiný*; and P *istny* 'genuine', OLS *jisty*, Sk *istý*, Cz *jístý*.

[7] When, after the loss of *jers*, the sequences *e* + *j*, *o* + *j* became widespread the rarely occurring original sequences *i* + *j*, *y* + *j* were adapted to this pattern and replaced by the former, hence R dial *stroj* 'uncle' (better known in the common family-name *Stroev*) if it is the exact counterpart of OLi *strūjus* 'old man'; *Sergéj*, peronal name, from La (Etruscan ?) *Sergius*; on R *šéja* 'neck' see section 7.

In other words forms with and without *i-* are found alongside each other, varying from one language and word (root) to another:

Br, U *imjá* 'name', P *imię* (and *miano*!), Pb *jáįmą* (geimang) vs. LS *mě*, US *mjeno*, Sk *meno*, Cz *jméno*;
Br, U *ískra* 'spark', Pb *jåskră* (goaskra), P *iskra* (and *skra*), Sk *iskra*, Cz *jiskra* vs. LS *škr(j)a*, US *škra*;
P dial *igo* 'yoke', Pb *jaid'ŭ* (geidigi) vs. Cz *jho*;
Br, U *ikrá* 'spawn', P *ikra*, US *jikro*, Sk *ikra*, Cz *jikra* vs. Ka *kro*;
P *imać* 'catch' vs. *mieć* 'have' (OP *imieć*), Pb *jáįmą* vs. *met*, OLS *jimaś* vs. LS *měś*, US *jimać* vs. *měć*, Sk *imat'* vs. *mat'*, Cz *jímati* vs. *míti*, in U only *máty*, in Br *mec'*. This is a special case because of partial overlapping of the verbs *iměti* and *imati* and in the latter of the perf **jĭmǫ* and impf **jĭmati*;
U dial *imelá* 'mistletoe', Pb *jameln-* (in place-names) vs. OP *miele*, Cz *jmelí*. In this word forms without *i-* also occur, exceptionally, in Sn (*meljê*) and SC (*ìmela* ~ *mèla*). Along with **jim*ₑ*al*ₒ*ā* the word had in CS another form ***ₒ*am*ₑ*al*ₒ*ā*, to which such forms as Sk *omela*, etc., go back (See 6,2);
OP *igra* 'play', Pb *jěgráįcă* (giggareitza), Sk *ihra* vs. U *hra*, Br *hrac'*, P, LS *gra*, US *hra*, Sk *hrat'*, Cz *hra*;
the preposition **jĭz* occurs as *z* in Br, P, LS, US, Sk and Cz; U has it in free variation with *iz*; Pb has a different prothetic consonant: *vėz*.

If the ratio of forms with *i-* to those without *i-* is calculated (counting doublets as *i-* forms) it becomes clear that Pb goes hand in hand with SSl and R. It has no losses of *i-*, except in one case of vacillation. Then follow P (75%), U (71%), Sk (67%), Br (50%), Cz (37%), US (33%) and LS (25%). Thus, Pb apart, P, U, Sk and to a lesser extent Br form a more conservative group, while Cz and So pushed the trend ahead more radically. It is noteworthy however that there is not a single root in which forms without *i-* were the only ones used, even if Pb is not counted, although there are two roots cited above (**jĭn-* **jĭst-*) in which only *i-* forms occur. Obviously, the basic forms in WSl, Br and U were those with *i-* from **jĭ-*, as in all other Sl languages.

Thus, the forms without *i-* are secondary. They arose presumably under the conditions of instability of *j* between the final vowel of the preceding word and *ĭ* of the following. Hence word beginnings of the type under scrutiny had twofold developments:

after *j-*: *jĭ-* > *ji-* (> *i-*);
with *j-* lost: *ĭ-* > *ь-* > *#-*.

It is not accidental that this phenomenon characterized first and foremost the WSl languages. Other evidence confirms the fact that *j* was especially unstable in these dialects. For example, the word which in R and Bg appears as *pójas* 'belt' is in P, LS and US *pas*, Sk and Cz *pás*. Sn, which has *pâs*, still preserves *pojâs* and SC also has the doublets *pȍjās* and *pâs* (See 32,8).

The forms without *i-* but with *j-*, of the type LS *jśpa* 'room', US *jstwa* or Cz *jho* 'yoke' do not contradict the suggested explanation. They are a compromise between the doublets with and without *i-*, probably of a later date. Occasionally they could also arise after a preposition ending in a *jer* when what is usually a word beginning was, phonetically, a medial syllable: *podъ jьgъmь*

'under yoke' > *pode* (~ **pody*) *jgem*, from which the form *jho* was derived[8].

The treatment of *jĭ-* before a syllable with a weak *jer*, i.e. in strong position, seems not to differ as a rule from that before any other type of syllable: the normal original reflex is *i-* (*ji-*), but secondarily it may yield ≐. Cf.:

P *igla* 'needle' (vs. OP *glica*), Pb *jăglă* (gagla), LS *gla*, Sk *ihla*, all from **jĭgŭlā* (Cf. in weak position U *hólka*, Br *ihólka* < **jĭgŭlŭkā*);

P, Sk *izba* 'room' (vs. OP *zdebka*), Pb *jăzbă* (gasaba), LS *śpa*, US *stwa* ~ *jstwa*, Cz *jizba*, all from **jĭstŭbā*;

Br *il'ma* 'elm', U dial *ílem*, Pb *jèlmé* (gülme), LS *lom*, Cz *jilem*, all from **jĭlmŭ*.

Yet there are deviating forms which display the normal development of the *jers* in strong position, that is into *e*. They are, for one of the roots quoted:

P dial (Silesia) *jegla*, OLS *jegla*, US *jehla*, Cz *jehla*. Also NKa has *jegla*. In R the river-name *Eglina* was mentioned in 16, 3[9]. SC Čak has *jàgla* along with *iglà*. These forms seem to point to a CS **jьgъla*, with *ĭ* changed into *ь*.

Cz also has the same reflex in *jemný* 'subtle' < **jĭmĭn-*. In other Sl languages the word is borrowed from Cz, directly or indirectly, and therefore does not characterize their own phonetic trends: P *jemny*, Sk *jemný*. U (*pry*)*jémnyj* 'pleasant', Br (*pry*)*jémny*. US *jimny* is a blending with *jimać*. The word is scarcely CS; it is of a later date, possibly a *pendant* to G *angenehm*, on the basis of the verb *jmouti*, with a later technique of alleviating difficult consonantal clusters by inserting *e*.

In the *jehla* forms the different treatment could again be ascribed to instability of *j-*: while **jĭgŭlā* through **jĭgъla* yielded (*j*)*igla*, the form without *j-* **ĭgŭlā* through **ьgъla* became *egla* and, with a new prothetic *j-*, *jegla* (*jehla*.) But geographically these forms go beyond WSl, to Čak and perhaps even R. Possibly, a dialectal variation is to be assumed in the disintegrating CS. In most of the dialects *jĭ-* was preserved regardless of position; in some, primarily Cz and So but also scattered elsewhere, *jĭ-* before a syllable containing a weak *jer* became *jь-* by assimilation and followed the normal development of strong *jers*. If so **jĭstŭbā*, probably a loan word from Rom, must have entered into these dialects after the assimilation ceased operating, for forms of the type **jezba* are unknown. Altogether the material is too scanty to be conclusive.

In word-internal position *ĭ* was also maintained originally after *j*, without changing into *ь*. This is fairly widely represented in OCS, e.g. *priimъ* 'accept'

[8] The treatment of *vŭ-* in Br *udavá* 'widow', U *udová*, So *wudowa* (*w-* is a prothetic consonant of later date), SC *udòva* parallels the treatment of *jĭ-* as *i-*. Cf. also SC *jùčēr* 'yesterday' (OCS *vьčera*), with prothetic *j-* of later date. But the area of *u-* < *vŭ-* is much smaller. Apparently the change of [w] into [v] interfered with this development in many Sl dialects.

[9] It is not certain however that this belongs to the same root as *iglá*. It may easily have been derived from R dial *jáglica* 'goutweed'; *Eglina*, river-name (in the distr. of Gdov,) may have been derived from *egl-* 'spruce' with **gl** < **dl** typical of the Pskov area (See 25,2). Place- and lake-names in the neighborhood of Puškino, Valdaj and Tixvin could have been names transferred from the Gdov area.

(past act part), *dostoinъ* 'worthy', *ubiica* 'murderer', *tainъ* 'secret', etc. F with them *e*-forms expanded when, after the loss of weak *jers*, the alt *e* : ≠ became typical. It is then that *priemъ* began superseding *priimъ*. appeared along with *dostoinъ*, etc. In the Mo Sl languages the regular of *ь* prevail although *i*-forms still survive in isolated cases. R has *ja* of *jajcó* 'egg' while Br *jaéc*, U *jajéc'*, Sk, Cz *vajec* have an *e*-substitute. R 'mutual' is the counterpart of the innovated forms Br *vzaémny*, U P *wzajemny*, Cz *vzajemný*; R *dostóinstvo* 'dignity' of P *dostojeństwo*. In archaic forms of the type *strannopriímnyj* 'hospitable', *táinstvo* 'sa exist beside *priëm* 'reception', *táen* 'secret' ("short" form of adj).

In short, *ĭ* after *j* and before *j* was preserved in Sl as a rule without into *ь*; *ŭ* changed into *ỹ* before *j*. An exception is found only in (P dialects which in the position before *j* altered *ĭ*, *ŭ* into *ь*, *ъ* the same other positions. Other apparent exceptions elsewhere, especially freque Cz – So area, either are caused by dialectal loss of *j* in some word begin in word-internal position after *j*, are of a somewhat later date when the tion *e* : ≠ was spreading at the expense of the less typical and statistical alternation *i* : ≠.

7. Loss of stressability in *jers* and its immediate consequences. T sign of the forthcoming loss of the *jers* was that they lost the ability stress. From a stressed *jer* in initial syllables the stress shifted onto t syllable. This occurred mostly in loan words. Two borrowings from Ge serve as examples: *ˈ*kuningaz* > *ˈ*kъnęʒь* now became *kъˈnęʒь* 'prince': > *ˈ*mъlinъ* now became *mъˈlinъ* 'mill'. Sn dial *málin* (Standard S probably preserves its stress in the original place (See section 9).

In non-initial syllables stress normally moved onto the preceding s This can be determined, with some vowels, by an interplay of into (See chapter 33). Here it suffices to refer to just one category, viz. mono (i.e. historically disyllabic) masc subst in the nom sg with the root vowel For sampling two words are taken: *ˈnosъ* and *koˈnjь*. While the former h stress the later accented endings, cf. R gen sg *nósa* vs. *konjá*, etc. The diff which evolved after the loss of stressability in the *jers* are still obvious oppositions: R dial *nos* 'nose' vs. *kôn'* 'horse'; Sk *nos* vs. *kôň*; Sn *nôs* (ge vs. *kònj* (gen *kónja*); SC *nôs* (gen *nȍsa*) vs. *kȍnj* (gen *kònja*), SC Čak *n nȍsa*) vs. *kóń* (gen *końȁ*); Bg *nosə̀t* vs. *kónjat*. In other languages trace intonational difference are no more identifiable[10]. When the short vow tained stress this entailed lengthening in some languages, narrowing vowels in others. Brevity in the type Sn *kònj*, SC *kȍnj* might represent original brevity but secondary length provided it had RP: in these tw guages RP is reflected as brevity. The originally long vowels by their na ture were unable to undergo lengthening.

[10] In this pair of examples Cz, by chance, also reveals an opposition: *kůň*, but in most other instances the opposition is obliterated and/or disso other layers of intonational shifts.

As for *ĭ* and *y̆* in weak position, the evidence is limited and partly uncertain. To judge by ESl verbs in the present tense these vowels preserved their stress, cf. R *l'ju* 'pour', *p'ju* 'drink', *v'ju* 'weave'; Br *llju, p'ju, ujú*; U *llju, pju, vju* as compared to fem pret R *lilá, pilá, vilá*; and, on the other hand, R *bréju* 'shave', *móju* 'wash', *króju* 'cover', *nóju* 'whine', *róju* 'dig', *vóju* 'howl'; Br, U *mýju, krýju, nýju, rýju, výju*; also *šýju* 'sew' as compared to fem pret R *bríla, mýla, krýla, nýla, rýla, výla, šíla*.

Yet in all other Sl languages the two groups do not differ; e.g. P *piję* 'drink' (1 sg), LS, US *piju*, Sk *pijem*, Cz *piji*, Sn *píjem*, SC *pȉjēm*, M *pijam*, Bg *píja* do not differ in the treatment of the root vowel from, e.g., P *myję* 'wash' (1 sg), LS, US *myju*, Sk *myjem*, Cz *myji*, Sn *mîjem*, SC *mȉjēm*, M *mijam*, Bg *míja*. All these languages use the same vowel in the pres as in the inf, historically speaking *i* or *y*. The twofold forms, partly with the vowel retained (type R *móju*, Br, U *mýju*), partly dropped (R *b'ju*, Br, U *bju*) characterize ESl only. The attempt to link the distribution to the stress (in the past tense), as shown above, is ingenious but it leaves an unexplained residue: one would expect in R +*šíju* 'sew', in R and Br +*bíju*, U +*býju* 'beat' according to the past tense forms R *šíla, bíla*. This approach overlooks the fact that there is another regularity in ESl: all the forms now without the vowel[11] had a front vowel (*i* : *ь* type) while those which had a back vowel consistently display a full-fledged vowel. If so, the distribution as we know it did not depend on stress and results rather from a secondary leveling. For Br and U it must be stated that *ĭ* was dropped whether stressed or not and this implies that before being dropped it had lost its stress. The forms with *y* are ambivalent: they may have *y* from *ŭ* (which, then, retained its stress) but they could as well have the generalized vowel of the infinitive.

It is in Russian alone that the latter possibility is out of the question and one may assume that in *mъjǫ* > *móju* *ъ* retained its stress. And yet even in this restricted area there are some facts which cast doubt upon this possibility. In OR a few forms without *o* are attested: *m'jutsja* 'wash' (3 pl) (*Xoždenie* of Kotov), also *šьja* 'neck' (gen sg *šьi*, Chr of Novgorod), cf. R *šéja*, Br, U *šýja*. If these spellings reflect the older situation in the whole area it is possible that *ъ* was to be lost phonetically in verbs of this type but was restored (or kept intact) under the influence of the imp where it was in strong position: **mъjь* > *moj*, hence *mъjǫ* > *mju* (phonetically) ~ *moju* (influenced by the imp). As to R *šéja*, Br, U *šýja* the vowel could be reintroduced from the gen pl and especially diminutive where it was in strong position: **šьjь(ka)* ~ *šijь(ka)*. In this case there is no evidence at all that the *jers* in these forms ever retained the stress.

In the initial syllable after *j*-, *ĭ* seems to retain its stress in the words (R) *ískra* 'spark', *ímja* 'name', *ígo* 'yoke'. But in Sl as a whole the first two words display fluctuating stress: U dial *iskrá*, Br *ískra* and *iskrá*; Br, U *imjá*, so that the initial stress is not necessarily CS. In *ígo*, originally an *s*-stem, the initial

[11] Except Br, U *šýju* and R *bréju*; the latter however is a case apart because of its initial consonantal cluster.

stress may have been introduced secondarily under the pressure of the declensional pattern: *nébo* 'sky' : *nebesé*, *slóvo* 'word' : *slovesé* and accordingly *ígo* instead of **igó* in relation to **ižesé*.

Thus any unambiguous evidence for retention of stress on *ĭ*, *y̆* is lacking; it is more plausible to assume that these vowels, like *ь* and *ъ*, lost the ability to bear stress in Sl as a whole or at least in all except the Proto-(N)R dialects. Hereafter *ĭ*, *y̆* will be considered in this respect as not differing from the *jers*; moreover, unless explicitly specified, *jers* will be understood to include both *ь*, *ъ* and *ĭ*, *y̆*.

The general rule of stress shift from the *jers* onto the contiguous syllable, preceding or following, was subject to complications if the contiguous syllable also contained a *jer* or if there was no contiguous syllable at all. Such cases may be reduced to three types: a) monosyllabic words with a *jer*, e.g. OCS *nъ* 'but'; b) di- or polysyllabic words containing *jers* in all syllables, e.g. OCS *sъnъ* 'dream', *čьtьcь* 'reader'; c) words with the stress on *jer*, another *jer* in the adjacent syllable, but with vowels other than *jers* in the other syllable(s), e.g. OCS *konьcь* 'end' (**konьˈcь*), *sъgъnǫtъ* 'bent' (if **ˈsъgъnǫtъ*, cf. R *sógnut*).

a) Most monosyllables with a *jer* as their vowel joined an adjacent word as enclitics or proclitics. This group included particles and prepositions. Accordingly, their *jers* were not treated specifically. Those few monosyllables, usually conjunctions and pronouns, which bore an independent stress, whether constantly or contextually, preserved it. This can be inferred from the fact that the *jers* in these words have not been lost, e.g. R *no* from OR *nъ*. For more examples see section 8.

b) In a sequence of syllables containing *jers* the stress is found on the penultimate syllable, where presumably it fell in most cases: **ˈsъnъ*, **čьˈtьcь*. That is to say, in words of this type the *jers* preserved their stressability.

c) Whether preceded or followed by syllables with vowels other than *jers* the first of the two *jers* preserved the ability to bear stress. For final syllables with *jers* in sequence cf. R, Bg *konéc*, Br *kanéc*, U *kinéc'*, Sn *kónec*, SC *kònac* < *koˈnьcь*. For initial syllables with *jers* in sequence cf. R *sógnut*, U *zíhnutyj*, SC *sȁgnūt* < *ˈsъgъnǫtъ*. In other words, the stress was not shifted over a syllable, nor was it advanced from a *jer* onto the following *jer*.

To sum up: a single *jer* preceded by a vowel other than a *jer* shifted its stress onto this vowel; a single *jer* not preceded but followed by a vowel other than a *jer* shifted its stress onto this vowel; *jers* in sequence stressed the next to the last *jer*. On the whole stress was preserved on the *jers* only if there was no immediately available syllable with a vowel other than a *jer*; and on the penultimate syllable with a *jer* if the final syllable also had a *jer*. This final rule however may not apply to some NW dialects, as forms of the type NP *domk* 'house' (dim) seem to indicate. See section 11.

8. Loss of *jers*: final position. Compensatory lengthening. All final *jers* except those which were stressed (See section 7) were lost. In those words in which the *jers* were stressed they were preserved as the vowels which are regular

reflexes of strong *jers*, as listed in section 2. The following words belong here:

R, Bg *no* 'but' < *nъ* (OCS, OR *nъ*). Cf Li, Le *nu* 'now', Gr νύ, Go *nu*;

Sn *tâ* (dial *tê*) 'that' (masc sg) < *tъ* (OCS, OR *tъ*). Br, U *toj*, SC *tâj* belong here, too. They also stem from *to*/*ta* < *tъ*, to which was added the *-j* typical of adj endings to avoid confusion with neut in Br and U, fem in SC. One cannot assume that *-j*(ь) was added to *tъ* when *-ъ* was still a *jer* because in that case the result would be Br, U +*tyj*, SC +*ti*(*j*) (See section 6). In the same way SC Kajk and Sn *káj* 'what' go back to *kъ* > *ka* + *j*;

Sn *sedàj* 'now', SC *sȁd* ~ *sàda*, from *sь* 'this' > *se*/*sa* + particle *d*(*a*); U *sej* 'this' from *sь* > *se* + subsequently added *j*, like *toj* above; cf OSC *saj* (1392);

SC Čak *ča* 'what' < *čь*. Cf. OI *cid* 'what', Av *čit*, Gr τί, La *quid*. As would be expected, in composition with a particle in the same word ь was lost since it was no longer monosyllabic: OCS *čьto* 'what', R *čto*, US, Bg *što*, SC *štȍ*. Likewise it was lost if a preposition or a particle was added before *čь*: U dial *nyč* 'nothing', P *zacz* 'for what', Sk *nič* 'nothing', Cz *nač* 'for what', Sn *nìč* 'nothing'.

The preposition (OCS) *kъ* 'to' is a special case. In prepositions which were phonetically a part of the following word, *jers* were treated as usual in the initial syllable (See section 9). Consequently one would expects *kъ* to become *k* before words whose first syllable did not contain a weak *jer*; and, before words with a weak *jer* in the first syllable, *k* followed by the vowel with which this language reflects strong *ъ*. Both forms are actually found: R *k* and *ko*, LS, US *k* and *ke*, Pb *ka*, Cz *k* and *ke*, Sn *k*, SC *k* and *kä*, cf. R *ko mné* 'to me', Cz *čas ke čtení* 'time for reading'. Yet alongside of *k* (in Cz also *ke*) P, Sk and Cz have a form *ku*, e.g. P *ku czci* 'in honor', Sk *ku mne* 'to me', in Cz before labials: *ku příkladu* 'for example'. Attempts to explain the form *ku* by blendings (*kъ* and *u*, *kъ* and the ending of masc and neut subst in the dat sg) failed. It is rather a petrified *kŭ*-form in which *ŭ* in some Sl dialects escaped the change into *ъ* and, consequently, has not been lost. This is confirmed by the fact that *ku* is frequently used in the oldest P texts, so that it cannot be a later innovation. It is hardly possible to establish what factors contributed to the preservation of *ŭ* in this word. Yet there are other cases of such preservation, in certain phonetic environments (See section 6 and 30, 1), so that this case is not completely isolated. If, as suggested, *kъ* is a loan word from Irn (Sogdian *kw* 'to', Av *kąm* 'for the sake of') there is a possibility that the word came to the WSl dialects as an inter-Sl borrowing. This could account for some peculiarities in its phonetic perception and development. It is also possible that this preposition originally was a postposition and, thus, more independent in its accent.

Another preposition, *s* < *sъ* is also found with final *u*: *su*. This form occurs in SC dialects of Montenegro and Dalmatia, cf. "sȕ dvā màča, a sȕ dvije krȕne" 'with two swords and two crowns' (Njegoš). This however is not another example of arrested development but a result of the expansion of the form *sǫ-*, originally used with subst as a prefix (OCS *sǫ-sědъ* 'neighbor', etc.), superseding the preposition *sa*, from *sъ*.

The reduction of final *jers* which antedated their loss brought about, dialect-

ally, a lengthening of the vowel in the preceding syllable of di- and polysyllabic words. This lengthening customarily called compensatory, spared all the eastern dialects of Sl; hence there are no traces of it in R, Br, U, Sk, Bg and M: *nosъ* 'nose' there became *nosъ̂* and later *nos* without any change in *o*[12]. Conversely, the dialects of the western part of the Sl area lengthened some vowels in response to the reduction of *jers*[13]. Within this common tendency significant variety is observable even now, although to a great extent the old situation has been obliterated by subsequent developments.

It may be presumed that the reaction of the Proto-US, Cz, Sn, and SC dialects was the same: they lengthened *o*, *e* before all consonants when final *ъ* or *ь* underwent reduction. If masc subst are taken as an example, this lengthening is visible in the contrast between the vowel in the nom sg (which ended in a *jer*) and that in the oblique cases (where there was no *jer*).

In SC this opposition is in quantity, with length in the nom sg and brevity elsewhere, e. g. *bôg* : *bȍga* 'God', *dôm* : *dȍma* 'house', *môst* : *mȍsta* 'bridge', *pôst* : *pȍsta* 'fast', *lêd* : *lȅda* 'ice', *mêd* : *mȅda* 'honey', etc. (For cases apparently without lengthening, like *kȍš* 'basket', see section 7 and 33,3).

In Sn the contrast in quantity is enhanced by a stress shift in the gen sg, e.g. *mộst* : *mostû*, *lệd* : *ledû*, *mệd* : *medû*, *pột* : *potû* 'sweat', *plộd* : *plodû* 'fruit'.

Cz stretched the contrast to a double opposition in quantity and quality of the vowel (the opposition in quality developed in Sn, too, but there it is a concomitant of the stress shift); but while the contrast gained in sharpness it lost in scope: the alternation survives in only a few words: *Bůh* : *Boha*, *dům* : *domu*, *důl* : *dolu* 'mine', *půst* : *postu*, *lůj* : *loje* 'tallow', *hnůj* : *hnoje* 'dung', *vůz* : *vozu* 'cart'. It fell into obsolescence in most other words, as *strom* 'tree', *roh* 'horn', *boj* 'struggle', etc. The extant examples are still sufficient to establish that the erstwhile scope of the lengthening was identical with SC and Sn. In an even more limited extension relationships of this type are represented in words which had vowels other than *o*, *e*: *ě* (*sníh* : *sněhu* 'snow', *chléb* : *chleba* 'bread'), *a*

[12] In the SW U *o*, *e* changed into *u* > *ü* > *i* in syllables after which a *jer* was lost, in the NU into diphthongs (*nus*, *nüs*; *nuₒs*; standard *nis* : *nosa*). Yet this was not caused by compensatory lengthening, as often is assumed, but by assimilation of *o*, *e* to *ŭ*, *ĭ* in the next syllable, an assimilation which resulted in narrowing (Kurylo). It was a change whose inception antedated not only the reduction of *jers* but probably even their rise.

[13] With the possible exception of Pb an LS. The data of Pb are inconclusive. In Pb length became a concomitant of stress and unstressed vowels underwent reduction. The original relations are overridden by these changes. Furthermore, records of Pb provide very few forms in oblique cases. In the Pb now accessible there is no evidence of compensatory lengthening. Nevertheless this does not warrant the conclusion that it never occurred.

In LS *o* and *e*, the two vowels crucial for our knowledge of compensatory lengthenings underwent a series of changes, depending on their consonantal environment, which completely obliterated the older state of affairs. One or two instances of the alleged compensatory lengthenings are pointed out in OLS (*Rulβka* < **rōlьska*, derived from *rola* 'arable land' in Moller, 1582, *nouz* < *nožь* 'knive' in Hauptmann, 1761) but they are insufficient for any conclusion either in favor of or against the compensatory lengthening.

(*mák* : *maku* 'poppy'), *r*-diphthongs (*hrách* : *hrachu* 'peas', *mráz* : *mrazu* 'frost', *práh* : *prahu* 'threshold').

In US, which lost its phonemic length, the old quantitative oppositions became qualitative alternations of vowels: *nós* : *nosa*, *wóz* : *woza*, *hród* : *hroda* 'castle', *měd* : *mjedu*, etc.

The situation in P only partially resembled the state of affairs in US, Cz, Sn, and SC. On the one hand, lengthening of vowels proceeded in P on a smaller scale, viz. before voiced consonants only (*wóz* : *wozu* but *nos* : *nosa*); on the other hand, it was not just *o*, *e* that lengthened but also *a*, *ě* and nasal vowels (in Ka also *u* and *i*, i.e. all the vowels) inasmuch as by that time they had lost their original length (See 32,4–5): *dół* : *dołu* 'pit', *łój* : *łoju* 'tallow', *miód* : *miodu* 'honey', *lód* : *lodu* 'ice', *wąż* : *węża* 'snake'[14]; P dial *chléb* : *chleba*, *dziád* : *dziada* 'beggar'[15]; Ka *lud* : *lëdu* 'people', *žid* : *žëda* 'Jew'[16]. P and Cz seem to have gone hand in hand in extending the lengthening to vowels other than *o*, *e*; but the absence of lengthening before voiceless consonants is a P peculiarity.

Thus Sl may be divided into the following groups, according to the attitude toward compensatory lenghtening as a response to reduction of final *jers*:

Eastern group (R, Br, U, Sk, Bg, M) – no lengthening;

SW group (Sn, SC) – lengthening of *o*, *e* before any consonant;

P type – lengthening of all short vowels (or all short vowels except *u*, *i*) before voiced consonants;

Central transitional type (Cz and possibly US) – lengthening of *o*, *e* and possibly other short vowels before any consonant;

Pb and LS – no conclusive evidence.

For compensatory changes in *ъ*, *ь* followed by weak *jers* see section 10.

9. Loss of *jers*: initial syllables. Only those initial syllables will be dealt with here which were not followed by another syllable with a *jer*, thus basically excluding cases of the type (OCS) *sъnъ* 'dream', *sъbьrati* 'collect'. For the latter see section 10.

The facts concerning reflexes of *jers* in initial syllables are complicated and often contradictory. Generally speaking, there are two areas in which the loss of *jers* in initial syllables was resisted more or less strongly: Pb with the extinct Sl dialects of N Germany and, on the other hand, Sn, SC, M, and Bg. In all other areas the tendency was to drop the weak *jers* of initial syllables.

One of the great difficulties the student faces is that often it is impossible to distinguish the retention of a vowel going back to a *jer* from an anaptyctic vowel introduced later to break a consonantal cluster which arose after the loss of a *jer*. E.g. (ChSl) *zvьněti* 'sound' apparently preserved its first-syllable vowel in R *zvenét'*, U *dzveníty*, Bg *zvənjá* as opposed to Sk *znet'*, Cz *zníti* (in which after the loss of *ь* the difficult cluster *zvn*- was simplified by omitting *v*). But it is

[14] In Mo P *ą* reflects original long nasal vowels, *ę* short (See 22,2).

[15] Standard P lost all traces of lengthening of *a*, *e* and *ě* in the seventeenth – nineteenth centuries, but they are well preserved in many dialects.

[16] Ka preserves *ū*, *ī* as *u*, *i* while *ŭ*, *ĭ* of MKa became *ë* [ə].

hardly possible to verify whether ь was actually preserved (as *e*, *ə*) or first lost and then a vowel inserted in order to keep all consonants intact. Even older records sometimes cannot disperse these doubts. OCS *čьtǫ* 'read' (1 sg) has as its correspondence in Mo SC *čàtīm*; OSerbian had *čtem*. The implication would be that *a* in *čàtīm* is a secondarily inserted anaptyctic vowel. But *čtem* may be a more or less artificial ChSl form as well; and *čàtīm* could have existed in the parlance since the time of the loss of *jers*.

In many instances it is quite plausible to assume that the vowel in place of a *jer* came to the form in question from other forms of the same root, in which the *jer* was in a strong position and normally was preserved. This is in all probability true in the case of the gen sg U *léva* 'lion', US *lewa*, Sk *leva*, Sn *léva*, SC *lȁva*, Bg *lə́vove* (pl) based on the nom sg U, Sk *lev*, US *lew*, Sn *lèv*, SC *lȁv*, Bg *ləv*, as opposed to the gen sg R *l'va*, Br *il'vá*, P *lwa*, Cz *lva*. The secondary character of the *leva* ~ *lava* forms is clear by and large. But theoretically it is still possible that at least in some areas ь in *lьva* was never dropped, but has survived supported by analogy with the nom sg *lьvъ*. And there are here and there less immediate and more complicated analogies of a morphological character, operating not within a paradigm but within a grammatical category (See below on some verbal forms in SSl). In all such instances morphological factors could have operated toward the same end as the phonological ones. But it is better to put these cases aside and to handle first of all those in which the phonetic factors are more evident.

In Pb, *jers* in the initial syllable were retained in all disyllabic words, e.g. *kåtŭ* (katů) 'who' < *kъto*, *vănă* (wóana) 'outside' < *vьně*, *t'ămă* (gama) 'darkness' < *tьma*, *săpə* (ssape) 'sleep' (3 sg) < *sъpi*, etc. In longer words, i.e. with three or more syllables, *jers* also were retained unless the stress fell on the third syllable or more from the beginning, e.g. *låzáįkă* (laseika) 'liar' < *lъˈžika*, *tăkăc* (takats) 'weaver' < *tъˈkačь*, *závăt* (sawat) 'chew' < *žьˈvati* – but *dvemó* (dwema) 'two' (dat-instr) < *dъvěˈma* (cf. *dåvó*, nom sg), *célă* (zela) 'bee' < *bьčeˈla*, *céră* (zere) 'yesterday' < *vьčeˈra*, etc.

In the extinct Sl dialects of N Germany developments seem to have proceeded along the same line so far as they may be reconstructed from examination of the local place-names in the medieval records, e.g. *Chamele* (1312, distr. Wismar) < **Xъmel-*, *Mechouwe* (1271, distr. Stargard) < **Mъxov-*, *Pinnowe* (1265, distr. Schwerin) < **Pьnev-*, etc.

The situation in Sn recalls Pb in that the bulk of disyllabic words retain the reflexes of *jers* in the first syllable; but trisyllabic (and longer) words in Sn for the most part lost their first syllable *jer* independently of stress place. Cf. on the one hand the disyllabics[17] : *venê* 'outside' < *vъně*, *stéblo* 'stalk' < *stьblo*, *steklọ̀* 'glass' < *stьklo*, *temà* (and *tmà*) 'darkness' < *tьma*, *mezdà* 'reward' < *mьzda*, *snáha* 'daughter-in-law' < *snъxa*, *rejà* (and *rjà*) 'rust' < **rьʒa*, *meglà* 'haze' < *mьgla*, *stezà* 'path' < **stьʒa*, *deskà* 'board' < *dъska*, *sánja* 'dream' < *sъn(ie)*,

[17] *e* substitutions for *jers* stand everywhere for [ə]: *venê* is phonetically [vənê], etc.

máša 'mass' < *mъša*, *táščа* 'mother-in-law' < *tъšča*[18]. On the other hand, however, there are some disyllabic words which do not have a vowel in the place of the original *jer*. They are : *kdọ́* 'who', *zdè* 'here', *stô* 'hundred', *dvâ* 'two', also *dnọ̀* 'bottom', and *tlà* 'floor'. The principle of distribution is as follows : the vowel is preserved before final *-a* which shortened (See 32,2), but not before *-o* (which was short originally) unless *-o* was preceded by a consonantal cluster.

Words of more than two syllables systematically lost the *jers* of the first syllable: *ptíca* 'bird' < *pъtica*, *špíca* 'spoke' < *stъpica*, *knjíga* 'book' < *kъnjiga*, *žlíca* 'spoon' < *lъžica*, *pšeníca* 'wheat' < *pьšenica*, *knêz* 'prince' < *kъnęʒь*. The number of exceptions is small. The vowel in *málin* 'mill' and *menìh* 'monk' (with parallel forms *mlîn*, *mnìh*) is typical of loan words; *čebệla* 'bee' (along with *čbệla*) has an inserted vowel in what would be an otherwise unknown consonant cluster [ǯb]. The form *katéri* 'which' is due to a blending of pronominal stems. On the other hand, the zero vowel in *hčî* 'daughter' is motivated by the trisyllabicity of the word in the oblique cases (*hčêre, etc.*) and/or by the preserved (or recovered) length of *-i*.

In disyllabic words with two *jers* in their basic form, forms which retain the vowel in the paradigm prevail statistically in Mo Sn, apparently in accordance with the general rule of disyllabic words, e.g. *čâst* : *čast*î 'honor' < *čьstь*, *dèž* : *dežjà* 'rain' < **dŭsdj-*, *lèv* : *léva* 'lion' < *lьvъ*, *lèst* : *lestî* 'ruse' < *lьstь*, *lèb* : *lebà* 'skull' < *lъbъ*, *mâh* : *mâha* 'moss' < *mъxъ*, *pânj* : *pânja* 'stub' < *pьnь*, *vâs* : *vasî* 'village' < *vьsь*, *lân* : *lâna* 'flax' < *lьnъ*, *tâst* : *tâsta* 'father-in-law' < *tьstь*, etc. Yet the presence of examples with a fugitive vowel of the type *pès* : *psà* (and *pesà*) 'dog' < *pьsъ*, *sèn* : *snà* 'sleep' < *sъnъ*, *vès* : *vsà* (fem) 'all' < *vьsь*, *šèv* : *švà* 'seam' < *šьvъ* (cf. also *šèl* : *šlà* 'went') makes it clear that in words of this type the phonetically normal retention of weak *jers* was based on a different principle. Normally weak *jers* were lost if the root had the non-clustered voiceless spirants *s* or *š* unless the word began in a sonant which vocalized (*ûš* : *ušî* 'louse' < *vъšь*) or contributed to the preservation of the vowel (*vâs* : *vasî* 'village'). The case of *dân* : *dnê* 'day' < *dьnь* is apart. The weak *jer* was lost in the oblique cases of this word because of the influence of the widespread trisyllabic forms of the type *dnêva*.

Basically the same rules apply to the other SSl languages.

Deviations in SC, as compared with Sn, are insignificant and involve individual words. Among disyllabic nouns ending in vowels other than *jers* this is *r̀da* 'rust' vs. Sn *rejà* (but also *rjà*); among trisyllabic nouns these are *mlîn* 'mill' vs. the Sn doublets *mlîn* ~ *málin* (but Čak *mȁlīn*) and *tvôr* 'polecat' vs. Sn *dehộr*. Finally, in monosyllabics this is SC *dân* : *dȁna* 'day' vs. Sn *dân* : *dnê*; while in Sn *pès* 'dog' may have two forms of the root in the oblique cases, *psà* ~ *pesà* (gen sg), SC has *psȁ* (but Čak *pasȁ*).

Bg also differs in but a few isolated words. It has a vowel in the place of a *jer* in initial syllables even more consistently than Sn and SC: *dəno* 'bottom' vs. Sn *dnọ̀*, SC *dnô*; *rəždá* 'rust' vs. SC *r̀da*; in monosyllabics *pes* : *pésove* 'dog' vs.

[18] For the reasons for the appearance of NRP in these words see 33, 13c.

SC *pȁs* : *psȁ*, *sən* : *səništa* 'dream' vs. Sn *sèn* : *snà*, SC *sȁn* : *snȁ*; in trisyllables *ləžíca* 'spoon' vs. Sn *žlíca*, SC *žlȉca*; and the verb *təká* 'weave' vs. Sn *tkáti* : *tčèm*, SC *tkȁti* : *tkâm*. But in *den* : *dni* 'day' Bg still preserves a vowelless form.

Whatever these distinctions, they are of minor importance and secondary origin. Basically all these languages follow the same pattern and the retention of the vowels in question must have begun in prehistoric times[19].

A largely identical pattern is found in the three languages also in the pres forms of verbs with an original *jer* in the root. These are the typical examples (For the sake of comparison the last column represents some other languages, in which *jer* became lost):

Sn	SC, Štok	SC, Čak	Bg	M	Other languages[20]
jámem 'begin'	(*ȍtmēm*)				(*po*)*jmú* 'understand'
vzámem 'take'	(*ȕzmēm*)	*zȁmēn*	(*vzéma*)	*zema*	*voz'mú*
žánjem 'reap'	*žȁnjēm* (~ *žnjêm*)	*žȁnjēn*	*žə̀na*	(*žnie*)	*žnu*
mánem 'grind'			*mə̀na*		*mnu*
(*pnèm*) 'stretch'	(*pȅnjēm*) 'lift'		(*raz*)*pə̀na*		(*ras*)*pnú*
ožámem 'squeeze'	(*žmêm*)				*žmu*
tárem 'rub'	*tȁrēm* (~ *trêm*)	*tȁrēn*	(*tríja*)	(*trie*)	*tru*
lážem 'tell lies'	*lȁžēm*		*lə̀ža*	*laže*	*lgu*
gánem 'move'	*gȁnēm*	(*nȁgnēn*)	*gə̀na*		*gnu* 'bend'
dáhnem 'blow'	*dȁhnēm*	(*o*)*dȁhnēn*	*də̀xna*		P *tchnę*
sáhnem 'dry up'	*sȁhnēm*	(*o*)*sȁhnēn*	*sə̀xna*		U *sxnu*
(*do*)*táknem* 'touch'	*tȁknēm*	*tȁknēn*			*tknu*
(*za*)*máknem* 'delight'	*mȁknēm* 'move'	*mȁknēn*	*mə̀kna*	*makne*	(*za*)*mknú* 'lock'

In some other verbs, however, the *jer* was lost:

mnìm ~ *mẹ́nim* 'think'	*mnîm*		*mnja* (dial)		
mrèm 'die'	*mrêm*	(*u*)*mrȅ*	*mra*	(*u*)*mre*	
rzâm ~ *ŕžem* 'neigh'	*ȑžēm*			*'rži*	
spìm 'sleep'	*spîm*		*spja*	*spie*	
(*pọ́*)*šljem* 'send'	*šljêm* ~ *šȁljēm*				
tkâm ~ *tkêm* 'weave'	*tkâm* ~ *tčêm*	*tkȅ*	*təká*	*tkae*	

[19] The early date of the loss of weak *jers* in the first syllable of more than disyllabic words possibly is attested by recurrent OCS *člověkъ* 'man', *klevrětъ* 'fellow-slave' (from VLa *collivertus*) from **čьlověkъ*, **kъlevrětъ*, which are the only attested spellings (See 5,9).

[20] Examples are R unless specified otherwise.

Cf. also SC *rve* (*se*) 'fight' vs. Bg *rəvá* 'bite'.

If one takes it into account that most verbal forms originally were trisyllabic and that there was a constant interplay between the two verbal stems one is rather inclined to consider the forms with a vowel in the root as secondary and the vowel as anaptyctic. A certain similarity among all the SSl languages exists here as well (though to a lesser degree than in the other morphological categories) but this is due to the common pattern in other types of words with *jers* in the first syllable.

The distinction between disyllabic and longer forms in the treatment of weak *jers* is clearer in older stages of development. OSC had the regularly distributed forms *mača* 'sword' (gen sg) vs. trisyllabic *mčara* 'sword maker' (gen sg, 1419) and *sa mči* (instr pl), but in Mo SC the vowel is generalized and found also in trisyllabic forms: *màčevi* (nom pl), *od màča* (gen sg). As seen from this example, a factor which prompted deviations from the general rules was the use of words not only with prefixes but also with prepositions. They made the syllable medial and naturally the laws of initial syllables were no longer applicable. Cf. also SC Čak *kadȇ* ~ *kadȋ* 'where' vs. *nȉgde* 'nowhere', both with the expected reflexes, but *gdȁ* 'when' derived from trisyllabic forms contrary to the phonetic law.

As expected, borrowings from Sl into Rm also reveal the different treatment of weak *jers* in di- and trisyllabic words. Rm has, on the one hand, *pîrî́* 'denounce', from (OCS) *pьrjǫ* 'argue', *tîrî́* 'pull', from (OCS) *tьrǫ* 'rub', *vîrî́* 'shove', from (ChSl) *vьrjǫ* 'rage'; on the other hand, in originally trisyllabic words it has *oprí* 'stop', *poprí*, *zăprí* 'retain urine' from **opьrǫ*, **popьrǫ*, **zapьrǫ* (R *zaprú* 'lock'). Cf. also Rm *citi* 'read' and OCS *čьtǫ*.

10. Loss of *jers*: medial syllables. In internal syllables *jers*, if followed in the next syllable by a vowel other than a weak *jer*, were lost in all the Sl languages, e.g. OCS *tetъka* 'aunt' vs. R *tëtka*, Br *cëtka*, U *títka*, P *ciotka*, LS *śotka*, US *ćetka*, Sk, Cz, M *tetka*, Sn *tȇtka*, SC *tȅtka*, Bg *tétka*. If followed in the next syllable by a *jer* which was to be lost, the *jer* of the preceding syllable usually was spared as a vowel, albeit apparently with some exceptions in Baltic Sl. The quality of the vowels which continue strong *jers* (*jers* in strong position) varies considerably, according to the language. The main lines of these developments were given in section 2. Here they shall be examined in a little more detail. Their complete presentation, with all the minutiae, belongs to the histories of individual Sl languages.

The development of successive *jers* was compressed by Havlík (1889) into a formula to the effect that if successive *jers* are counted from the end of a phonetic word all odd *jers* were to fall and all even *jers* to stay as full-fledged vowels. This formula since that time has become a commonplace of Sl historical phonology, as well as the comparison of the status of successive *jers* with successive "*e* muets" in French: in a phrase like *je ne te le ferai pas*, the *e*'s of *ne* and *le* tend to be lost while those of *je* and *te* remain.

Both Havlík's rule and the comparison with French reflect some reality but

contain a certain oversimplification. Havlík's rule does not apply to final syllables of monosyllabic words (See section 8) nor in a great many cases to the initial syllables (See section 9). As will be shown in section 11, it does not apply dialectally to penultimate syllables either. The French treatment of "*e* muet" invoked as a complete parallel to the Sl developments is by no means as mechanical as it is represented. It depends on the tempo of speech and the preservation or loss of "*e* muet" is to a great extent optional. Not only is *je n' te l' ferai pas* possible but also *je ne t' l' ferai pas* and even *je n' t' l' ferai pas*. If *je* resists most strongly (although its vowel also may be dropped), it is not because it is in an even syllable, namely the fourth from the end of the sequence, but because it is initial. The situation would not change if it were placed in an odd, e.g. third syllable: *je ne le ferai pas*. Thus both the Sl data and the French parallel belie the mechanic elements of Havlík's rule. But in most cases it applies well to sequences of two or three *jers*: OCS *s*$\overset{2}{\text{ъ}}$*n*$\overset{1}{\text{ъ}}$ 'dream' becomes (R) *s*$\overset{2}{o}$*n*$\overset{1}{\#}$ and *č*$\overset{3}{\text{ь}}$*t*$\overset{2}{\text{ь}}$*c*$\overset{1}{\text{ь}}$ 'reader' becomes (R) *č*$\overset{3}{\#}$*t*$\overset{2}{e}$*c*$\overset{1}{\#}$ while *č*$\overset{2}{\text{ь}}$*t*$\overset{1}{\text{ь}}$*ca*, gen sg, yields normally *č*$\overset{2}{e}$*t*$\overset{1}{\#}$*ca*, unless analogy intervenes.

From the standpoint of the representation of strong *jers* in individual Sl languages the latter may be divided into two groups: in one the reflexes of ъ and ь are kept apart, in the other they coalesced. The first group, which may be labeled provisionally the two-*jer* or Eastern group, is represented by R, Br, U, Sk, M and the bulk of Bg dialects. All the other languages constitute the one-*jer* or Western group[21]. It is typical of all the languages of the two-*jer* group except Bg that ъ has never been completely delabialized in them. It underwent just a partial delabialization, from an *u*-type to an *o*-type vowel.

In the whole two-*jer* group of languages, except Bg, ъ changed essentially into *o*, ь into *e*. But there are complications of various kinds in the individual members of the group.

In R, Br and U ъ consistently yields *o* (except in unstressed positions in dialects with *akan'e*, where *o* was not admitted and ъ became *a*), e.g. *mъxъ* > R, Br, U *mox* 'moss'. As for ь, it generally yielded *e*, but after hushing consonants before a syllable with ъ it gave *o* (See 28,6), e.g. *pьnь* > R, Br, U *pen'* 'stump'; *šьlъ* > R *šël* 'went', Br *išów*, U *išóv*; *šьvъ* > R *šov* 'seam'. This may be considered a partial merger of the two *jers* (it occurred prior to the elimination of *jers*), though in a limited position only[22].

M also has *o* from ъ and *e* from ь but after sonants occasionally *a* occurs for both *jers*, probably originally the reflex of weak *jers* retained : *zъlъ* > *zol* 'evil', *pьsъ* > *pes* 'dog', *lьgъk-* > *leka(-poleka)* 'slowly', *lьstьno* > *lesno* 'easily', *mьčьta(etъ)* > *mečtae* 'dream' but *lьvъ* > *lav* 'lion', *lъžь* > *laž* 'liar'

[21] Ist must be borne in mind that one-*jer* languages could also have started with two *jers*. It is the final stage of the development which provides the basis for the classification.

[22] It is possible that after hushing consonants strong ь changed into *o* in all positions, and this *o* yielded *e* later before palatalized consonants, as was the case with *a*. But there seems to be no positive evidence in favor of this assumption.

(Cf. also initial syllables with weak *jers*: *mьgla* > *magla* 'mist', *mъkne* > *makne* 'move').

The situation is more intricate in Sk. Sk too has *o*-reflexes of *ъ* and *e*-reflexes of *ь*, e.g. *vъšь* > *voš* 'louse', *pьnь* > *peň* 'stump'. But there are also *e*-reflexes of *ъ* and *o*-reflexes of *ь*, e.g. *sъnъ* > *sen* 'dream', *tъnъ* > *ten* 'that'; *ovьsъ* > *ovos* 'oats'. In addition, there are fairly numerous examples with *a* from both *ъ* and *ь*, e.g. *dъždь* > *dážd'* 'rain', *rъžь* > *raž* 'rye', *lьnъ* > *l'an* 'flax', *kotьlъ* > *kotál* 'boiler', etc. It may be assumed that the shifts from *e* to *o* are due in most cases to assimilative processes: they occur as a rule next to a labial consonant or a rounded vowel. The shifts from *o* to *e* are to be ascribed to dialect mixture: while CeSk is characterized by *o* < *ъ*, WSk has *e*. As for *a*, it is a secondary phenomenon. In some cases CeSk *e* of various origins changed into *a*, especially after *l'*; but in most cases *a* was an anaptyctic vowel which was inserted into complex consonantal clusters and then, having acquired the status of a "gap-filling vowel" in alternation with $\neq$[23], in certain forms it dislodged *e* and *o* which also alternated with $\neq$. If this approach elaborated (with variations in detail) by Diels, Novák and Seliščev is accepted, one has to distinguish the earlier stage when *ъ* > *o* and *ь* > *e* from later stages in which sometimes *e* > *o*, sometimes *o* was superseded by *e* and a "fugitive" *a* developed. Individual developments in some words still have not been explained convincingly.

In Bg the reflex of *ъ* was completely delabialized (except in the Rhodopian dialects where it is represented by [ɔ] denoted in Bg dialectology as *ô*). Standard and NBg have preserved the reflex of *ъ* as *ə*, while in WCe dialects it changed into *a* (e.g. Pirdop, Botevgrad) or *ê* [æ] (e.g. Teteven). The reflexes of *ь* in standard Bg are mixed. In certain cases *ь* coalesced with *ъ*, in other it is represented by *e*. The phonologically legitimate reflex is *e* as found, e.g., in *den* 'day' < *dьnь*, *lek* 'light' < *lьgъkъ*, *len* 'flax' < *lьnъ*, *revnúvam* 'be jealous' < *rьvьn-*, and in words with the suffix *-ec* (< *-ьcь*) of the type *otéc* 'father', *stárec* 'old man'. As for *ə* from *ь*, it is secondary and developed in weak position, e.g. *məglá* 'fog', *tə́men* 'dark', *tə́nək* 'thin', *pə́kəl* 'hell' (< *mьgla*, *tьmьnъ*, *tьnъkъ*, *pьkъlъ*). In quite a few words there was originally a discrepancy between the nom where *ь* was in strong position and should have yielded *e* and the oblique cases where, in weak position, it gave *ə*. By further leveling *ə* was usually generalized and transferred to the nom case. This is how there arose forms like *məst* 'revenge' < *mьstь* having the oblique cases with weak *ь*, e.g. *mьsti*, gen sg; *ləst* 'flattery', *təst* 'father-in-law', *ləv* 'lion', etc. Thus *ə* in Bg played a part similar to that of *a* in Sk, and one has to reckon with the two original refelexes of the *jers*: *ъ* > *ə* (i.e. basically unchanged) and *ь* > *e*. That is to say, originally Bg was a member of the two-*jer* group although Mo Bg with its partial confusion of the two *jers* seems to be a link between the two- and one-*jer* groups. Many Bg dialects however merged the two *jers* completely and thus belong to the one-*jer* group. This is true of the dialect of Teteven in Central Bulgaria and the Rhodopian dialects

[23] Cf. Mo Cz, where *u* takes on this function in vernacular forms like *sedum* 'seven', *osum* 'eight' (standard *sedm*, *osm*), *od-u-ndat* 'put away'.

in the SE[24]. If all the dialects are taken into consideration it must be said that the boundary between the two- and one-*jer* groups cuts through Bulgaria and in this respect Bg is indeed an intermediary language.

The one-*jer* group in turn is to be subdivided into two subgroups. In the one consisting of SC and Sn the two *jers* coalesced completely in one vowel. In the other subgroup the *jers* also merged but the character of the preceding consonant still shows which *jer* is represented. This applies to P, LS, US, Cz and, with some reservations, Pb.

In SC both *jers* merged in ə (possibly developed from a higher, more fronted vowel). In the thirteenth century this ə yielded *a* in most of the Štok and Čak dialects: *lьnъ* > *lȁn* 'flax', *sъnъ* > *sȁn* 'dream'. Kajk and some Western Čak dialects (Krk, Cres) have *e*-type vowels. A few dialects still preserve ə, e.g. those in the area S and SE of Cetinje.

In OSn also ъ and ь coalesced in ə which is essentially preserved in short syllables: *sъnъ* > *sèn* 'sleep', *vьsь* > *vès* 'all' (with *e* denoting [ə]). Under secondary lengthening (See 33, 3) however ə > *â* in standard Sn and most SW dialects, while the NE dialects have *e* ([ə]). Thus standard Sn has *dân* 'day' < *dьnь*, *vâs* 'village' < *vьsь*, *mâh* 'moss' < *mъxъ*. This split of ə into ə and *a* is of somewhat later date and depends on intonation, not on the primordial distribution of ъ and ь. These two are undistinguishable in Sn.

The most obvious representative of the second subgroup within the one-*jer* group is P. Both *jers* became *e* in P but consonants are palatalized only before the *e* from ь, e.g. *sъnъ* > *sen* 'dream', *lъbъ* > *leb* 'head' but *lьnъ* > *len* 'flax', *pьnь* > *pień* 'stump'. Scattered and infrequent spellings with *u* or *o* in place of strong ъ in some OP records of place-names, of the type *Lokna* (1153), *Lukna* (thirteenth century) for what is now *Łekna*, from **Lъkъna*, presumably reflect an old tradition in rendering these place-names, going back to the time when ъ was still *ŭ* (and in its further partial delabialization *ŏ*). Thus an ə-stage must be reconstructed for pre-recorded P:

ŭ > ə > *e*
ĭ > 'ə > '*e*

or, ignoring palatalization of consonants:

ŭ
  > ə > *e*
ĭ

Cz also consistently has *e* from both ъ and ь. The traces of original palatalization of consonants before *e* < ə < ь are largely marred by later (fourteenth century) dispalatalization of all consonants before front vowels of the *e*-series, but it is still not quite obliterated in the case of *r*. In the thirteenth century *r*' > *ř*, and this *ř* is found normally before *e* from ь, e.g. *stařec* 'old man', *tvořec* 'creator' (< -ьcь), but not before *e* from ъ, e.g. *ret* 'lip' < *rъtъ*. Before consonants *r*' was dispalatalized prior to the rise of *ř*, so that in this position there are no

[24] In OCS, Sava's Book seems to reflect this state of affairs.

longer any traces of the earlier palatalization: *starce, tvorce* (gen sg). There are also numerous levelings owing to this difference in the root between the basic and oblique forms. Forms like *orel* 'eagle', *dvorec* 'mansion' are examples.

For both LS and US the same early development of the *jers* may be surmised: merger in ə subsequently becoming *e*, the distinction between ь and ъ being originally preserved in palatalization or non-palatalization of the foregoing consonant, respectively. In LS the situation is still at hand. One has only to remove the results of the later (sixteenth century) transition *e* > *a*, which *e* from ь shared with *e* of any other origin. Examples with *e* preserved are, from ъ: *dešć* 'rain', *mech* 'moss', *kšej* 'blood', *teptaś* 'trample', *kšet* 'mole', *ten* 'that', *wen* 'out', *weš* 'louse', *wezmu* 'take' (1 sg), etc.; from ь: *źeń* 'day', *cesć* 'honor', *pjeńk* 'log', *pepjer* 'pepper', *mjeńšy* 'smaller'; with the change of *e* into *a*: *pjas* 'dog', *law* 'lion', *lasć* 'cunning', *lan* 'flax', *wjas* 'village', *šaw* 'seam', *służabnik* 'servant', *lažki* 'light', *śańki* 'thin', etc. Deviant forms are rare: *soń* 'dream', *wucobnik* 'apprentice' with irregular *o*.

The original distribution is more obscured in US, although in most instances it is still reconstructible. Examples of *e* retained are, from ъ: *dešć* 'rain', *krej* 'blood', *ze* 'with'; from ь: *dźeń* 'day', *česć* 'honor', *lesć* 'cunning', *pjeńk* 'log', *wjes* 'village', *sćežka* 'path', *ćeńki* 'thin', *mjeńši* 'smaller'. With a contiguous labial, *o* is found instead of *e*, from ъ: *moch* 'moss', *woš* 'louse', *wozmu* 'take' (1 sg); from ь: *pos* 'dog', *šow* 'seam', *słužobnik* 'servant', *wučomnik* 'apprentice'; *o* is also found before hard dentals: from ъ: *són* 'dream', *rót* 'mouth', *knot* 'mole' (< *krъtъ*), *bóz* 'elder', *tón* 'that', *won* 'out'; from ь: *worjol* 'eagle', *kotol* 'kettle'. Deviant forms have *e* instead of the expected *o*: before labials, *teptać* 'trample'; before hard dentals, *len* 'flax', *deska* 'board'; with *o* instead of the expected *e*: *lochki* 'light' and, probably a borrowing, *law* 'lion'. It is not necessary to assume that ъ and ь changed first into *e* in all positions and then *e* became *o* before and after labials and before hard dentals. The split into *e* and *o* could have been original, depending on the phonetic environment. But in either case the reflexes of ъ and ь are not distinguished, so that US undisputably belongs to the one-*jer* group.

This can apply also to Pb but with one reservation. In most positions ъ and ь coalesced in *å*, e.g. *råt* (roat) 'mouth', *kåtü* (katü) 'who', *l'ån*(lgân), *ṕås* (pyâs), etc. After a velar before a syllable with a front vowel ъ changed into *ė* (ь never occurred after velars), e.g. *nüd'ėt* (nitgid) 'fingernail' < *nogъtь*, *cart'ėv* (tzartgi) 'church' < *cьrkъvь*, etc. The incompleteness of the merger of the two *jers* seems to follow from the separate treatment of ь before a syllable with front vowel. It is usually assumed that in this position ь yields *a*, not *å*, e.g. *pan* (pânn) 'stump' < *pьnь*, *vas* (wâs) 'village' < *vьsь*, *dan* (dân) 'day' < *dьnь*, while ъ is still reflected as *å*, e.g. *vås* (woas) 'louse' < *vъšь*, *dåzd* (dâst) 'rain' < *dъždь*, etc.

This difference however is not reliably established. The spellings in the Pb records often overlap for the reflexes of ь and ъ. A more important fact is that consonants in Pb hardened before this reflex of ь (unless labialized). This points to a front articulation of the vowel: in prevocalic position Pb consonants hardened before front vowels but preserved their palatalization before non-front

(rounded) vowels (Cf. the above examples *l'ån, ṕås*. See also 31,5). The inference seems to be that in Pb ь before non-front vowels and ъ in all positions coalesced into a non-front vowel while ь before front vowels remained a vowel apart, namely a front vowel. If so the merger of the two *jers* was only partial[25].

11. Loss of strong *jers*. An early dialectal peculiarity is the lack of a strong *jer* or its reflex in the penultimate syllable of words unless followed by a sonant. This is characteristic of NP, Ka, extinct Baltic Sl, and So.

As early as about 1136, in the oldest major written record of P names, one finds personal names of the type *Blizk*, *Domk*, *Reczk*, *Krostawc* (spelled *Blizc*, *Domc*, *Reck*, *Crostauz*) and many other with # in place of *jers* in strong position (*Blizk* < **Blizъkъ*, etc.). The same is typical of later NP dialects, e.g., in recent records, *podvečórk* 'afternoon snack', *pu̇ńeʒåu̯k* 'Monday', *Suwalk*, gen pl of the place-name *Suwalki*. Forms of the same type occur systematically in Ka, e.g. *dobëtk* 'cattle', *rȯžk* 'horn' (dim), *nokc* 'nail', *ku̯ȯńc* 'end', *u̯ȯvs* 'oats', from *dobytъkъ*, *rožьkъ*, *nogъtь*, *konьcь*, *ovьsъ*.

Farther West forms of this type are found in So, e.g. LS *gerc* 'musician', *gibk* 'pulse', *golc* 'boy', *rožk* 'horn' (dim), *łokś* 'elbow', *nokś* 'nail', *pěsk* 'sand'. US has *herc* 'musician', *hólc* 'boy', *łochć* 'elbow', *nochć* 'nail', *dwórc* 'palace', *kurjenc* 'henhouse', *dwórčk* 'yard' (dim), *pěsk* 'sand'.

These forms were alien to Pb. It had *ṕósək* (pyósak) 'sand', *b'óldk* (byólak) 'egg white', *t'ái̯pəc* (tyeipatz) 'merchant', *slépəc* (slepatz) 'blind man', etc., from *pěsъkъ*, *bělъkъ*, *kupьcь*, *slěpьcь*, with ъ and ь represented as ə (in unstressed position, thus reduced).

The boundary between the areas of ъ, ь > # and ъ, ь > ə in words of this type should have run through the extinct Baltic Sl. Records of local place-names, in fact, show forms with # vowel along with numerous forms which have a vowel. The former range from the districts of Kartuzy (Karthaus) and Kościerzyna (Berent) in the east, with their *Borreck* < **Borъčьkъ* and *Borrowz* < **Borovьcь* through the area of Słupsk (Stolp) and Kołobrzeg (Kolberg) farther west, with *Boyrk* and *Bork* (< **Borъkъ*) to the island of Rügen (*Breetz* < **Brezьcь*), district of Waren (*Melz* < **Melьcь*) and down to the district of Perleberg, not far from the Elbe (*Bresch* < **Brezъkъ*, *Baarz* < **Bъrtьcь*). The geographical distribution of these forms needs special study but it seems that a denser concentration occurs east of the approximate line Rügen – Waren.

The forms with # vowel are usually explained as due to analogy with the oblique cases: first *domъkъ*, gen *domъka* gave **domek* : *domka*, then **domek* changed into *domk* under the influence of all other forms in the paradigm. This explanation is not to be ruled out; but, with it, certain facts remain unexplained: the very systematic appearance of the forms in a large uninterrupted area, from Mazovia almost to the Elbe and the Saxon Erzgebirge; and especially the fact that # occurs only before *-kъ*, *-cь*, *-tъ*, *-tь*, *-sъ*, *-čь*, but not before *-nъ*,

[25] In Ka there also seems to be a partial distinction between the two *jers*, with ъ represented as *ä* and ь as *'e*.

-nь or *-lъ*, *-lь*, where the normal reflexes of a *jer* in strong position are found. It might be supposed that a certain phonetic regularity operated along with the morphological tendency: strong *jers* in penultimate syllables were lost in tri- and polysyllabic words if they were followed by a voiceless consonant. Conversely, the presence of a voiced consonant precluded the loss of *jers*.

It is possible to conjecture that this peculiarity of the NP-So dialectal group, the loss of strong *jers* in the penultimate syllable, was the result of an early concentration of stress on the initial syllable. While in general the strong *jers* in penultimate syllables retained their stressability, as stated in section 7 c, in this area the stress had been by then retracted onto the word beginning and the unstressed *jers* could have been preserved only if supported by a following voiced consonant.

12. Chronology of the loss of *jers*. For several Sl languages the loss of *jers* is immediately documented by the written texts available.

OCS texts of the eleventh century reflect both the loss of weak *jers* and the change of strong *jers* into *o* or *e*. The KFr, a text presumably from the tenth century, is still quite accurate in its rendition of *jers*. That *jers* were full-fledged vowels in the mid- and late ninth century is established by the presence of special letters to denote them in both the Glagolitic (863) and Cyrillic (late ninth century) alphabets. The oldest syllabic verses written in OCS count syllables with weak *jers* as normal syllables. Thus the tenth century is the time when the loss of *jers* took place in M, Bg and probably Sk and Cz.

For M and Bg this chronology is corroborated by the fact that around the same time *ŭ* and *ĭ* (i.e. at that time unstressed *u*, *i*) in certain positions were dropped in the then largely coterritorial Rm language. The conditions were similar to those in Sl although by no means identical. Final *ŭ* and *ĭ* were dropped consistently, except after a consonantal cluster ending in *l* or *r*, e. g. *iūrāmentu(m)* > *jurămînt* 'oath', *veterānu(m)* > *bătrîn* 'old', *magi(s)* > *mai* [mai̯] 'more', *domini* > *domni* [domn'] 'mister' (pl), but *soceru(m)* > *socru* 'father-in-law', etc. In word-internal position too *ŭ*, *ĭ* were subject to loss, e.g. *ambulāre* > *umblá* 'go', *pavīmentu(m)* > *pămînt* 'earth'. Often Rm went further than Sl, dropping *ŭ*, *ĭ* in two successive syllables, e.g. *calidu(m)* > *cald* 'warm', *dominu(m)* > *domn* 'mister'. But it was shown above that "Havlík's rule" does not apply automatically to Sl either. These changes took place in Rm by the eleventh century. This was one more response of Rm to the challenges common with Sl.

The oldest Sn text, the FrFr, which was copied in the late tenth century (compiled in the ninth) exhibits the loss of weak *jers* while the strong *jers* are rendered both in the same way, usually as *e* or *i*, e.g. *den* 'day' (*dьnь*), *vuiz* 'all' (*vьsь*); *zegrefil* 'transgressed' (*sъgrěšilъ*), *otpuztic* 'absolution' (*otpustъkъ*); for weak *jers* cf. *otze* 'father' (voc sg) (*otьče*), *uzem* = *vsem* 'all' (dat pl) (*vьsěmъ*), etc.[26] The loss of *jers* in this area thus may be attributed even to the late ninth

[26] The few instances in which a vowel is found in place of a weak *jer*, usually in initial syllables, are customarily ascribed to the inaccuracies of a German scribe.

century, but it certainly took place not later than the mid-tenth century. It is possible that in Sn the *jers* were lost a little sooner than in M and Bg, which would indicate that this sound change spread from the SW eastward and possibly northward.

As written records of SC do not reach farther back than the eleventh century, they show only that SC did not have *jers* at that time. But there is no reason to doubt that the *jers* were lost in SC not much more tardily than in Sn.

Much later the trend spread to the Sl dialects north and east of the Sudetes and Carpathians. It may be traced step by step in OR manuscripts. To be sure, even in the earliest of them one finds some *jers* omitted and some replaced by *e* or *o*; but as revealed by a scrupulous analysis initiated by Šaxmatov, these omissions and substitutions only reproduce OCS spelling habits. The real loss of *jers* occurred in the Ukraine in the mid-twelfth century (it becomes obvious in the texts between 1144 and 1168) and in NR (Novgorod area) about a century later, in Br some time in between.

In P the loss of *jers* occurred not later than, and probably during the eleventh century. The Bull of Gniezno, ca. 1136, as a rule has almost no traces of weak *jers* (*Snouid*, *Trebna* < *Sъnovidъ*, *Trebьna*; but still *Scarbinichi* < *Skarbinьci*, with *i* for ь), while strong *jers* are represented by *e*: *Lecna*, *Grodez* < *Lъkъna*, *Grodьcь*), etc. On the other hand, it is to be assumed that the *jers* were lost after the Christianization of Poland, i.e. after the late tenth century: while borrowings effected during Christian times took part in the alternation *e* : *o* (*Piotr* 'Peter' : *Pietrze*, loc sg; *kościół* 'church' : *kościele*, loc sg), *e* from ь does not participate in this alternation (*pies* 'dog' not +*pios*). The most plausible implication is that ь changed into *e* when the split of *ʼa* into *e* and *o* was completed.

There are no direct indications as to the time when *jers* were lost in So and Pb but logically one would expect that it was no later than in P at least in the case of So, which was in contact with Cz and P.

Thus the loss of *jers* for Sl as a whole is to be placed in the period between the early tenth century, when it began in the SW, and the middle of the thirteenth, when it was completed in the NE.

13. Conditions. The very span of time, about three centuries, between the beginning of the loss of *jers* in the SW, in Sn, and its completion in the NE, in NR, shows that the change was performed independently in the various Sl languages and dialects. Essential differences in the treatment of the *jers*, both weak and strong, corroborate this assumption. And yet the main direction of all the changes was the same and even their results are, if not universal, at least shared by groups of dialects. This implies that the conditions for the loss of the *jers* had already arisen in Sl as a whole and that it was the severance of ties among the Sl peoples which made them perform the identically conditioned change each in its own manner.

The first prerequisites for the loss of *ŭ* and *ĭ* (later to become the *jers*) reach far back into CS. In fact it was the rise of new consonants from clusters with *j* and the first and subsequent palatalizations of velars which prepared the ground

for the forthcoming loss of *ŭ* and *ĭ* (then still in the distant future) through the intermediate stage of *jers*. These sound changes essentially increased the number of consonantal phonemes, introduced consonant alternations and to a great extent transferred the identification of words and morphemes onto the consonants, in many cases making the presence of certain vowels redundant. To take a simplified example: before the palatalization of velars the forms **$_{o}$avik$_{o}$ā* 'sheep' and **$_{o}$avikik$_{o}$ā* 'sheep' (dim) differed first of all by the presence of *ĭ* between the two *k*'s. Without this vowel the two *k*'s would have merged (CS of the time did not admit long consonants), and the forms would have become indistinguishable. When **$_{o}$avik$_{o}$ā* became *ovicā* (as a result of the third palatalization) and **$_{o}$avikik$_{o}$ā* became *ovičika*, the opposition *c* : *č* was sufficient to distinguish between the words and both *jers* (*ĭ*) became redundant. This created the possibility that the second one might be lost, perhaps even both of them. If the first of them has been retained (becoming a strong *jer*), this is because of articulatory convenience and the general pressure of the system which opposed sudden, too drastic alterations.

This is what has been called provisionally in 21,8 and subsequently, a gradual switch from a language of "vocalic" type to one of the "consonantal" (or, more cautiously, "non-vocalic") type. It paved the way for cut-backs in the inventory of vowels in general. If it was specifically *ŭ* and *ĭ* which were actually eliminated, the reasons for that choice are to be sought in the system of vowels.

The loss of *ŭ* and *ĭ* was further facilitated by the changes in the vowel system which followed the first palatalization of velars: the monophthongization of diphthongs, the rise of *ȳ*, *ā*, *ŏ* and *ĕ*, and the split of the vowel system into subsystems of long and short vowels which were far from identical. As presented in 26,11 (disregarding distribution of pitch):

ī	*ū*	*ȳ*					*ĭ*	*ŭ*
			+	(*ę*	*ǫ*)	+		
$_{o}$ā	*ā*						*ĕ*	*ŏ*.

In fact, however, after the change *$_{o}$a* > *ĕ* the only remaining complex vowel, *$_{o}$ā*, was to be set apart, as was *y*; and the system is better represented as

		ī	*ū*	+ *ȳ*						*ĭ*	*ŭ*
$_{o}$ā	+				+	(*ę*	*ǫ*)	+			
			ā							*ĕ*	*ŏ*

The merger of *ŭ* and *ĭ*, or at least a change in their quality, completed the trend toward severance of the two subsystems. The two vowels *ŭ* and *ĭ* were the only ones in which the quantitative opposition still appeared in its pure form. Those dialects which merged *ŭ* and *ĭ* in *ə* obtained a new balance in the cores (framed below) of both subsystems, at the same time wholly abolishing opposition in length between otherwise identical vowels:

		[*ī*	*ū*]	+ *ȳ*							
$_{o}$ā	+				+	(*ę*	*ǫ*)	+	[*ĕ*		*ŏ*]
			[*ā*]							[*ə*]	

These two core triangles supplemented each other without overlapping, so that in the further developments of individual languages they could be easily telescoped to constitute the core of, say, the Bg and Sn systems (quantity, if any existed, is not indicated):

i   *u*
e   *o*
a   *ə*[27]

or, by further merger of *a* and *ə*, to become the core of, say, the SC system:

i   *u*
e   *o*
    a

(How *ʿā* and *y* were adapted to the system is treated in 34,3–4).

In those languages which let *ŭ* and *ĭ* coalesce in *e*, as well as in those which, through *ь* and *ъ̊*, arrived at the *e* and *o*-stage, the subsystem of short vowels shrank to just two members:

ʿā + [*ī* *ū* / *ā*] + *ȳ* + (*ę* *ǫ*) + [*ĕ* *ŏ*]

which again could easily be maneuvered into what was originally the core triangle of long vowels:

i   *u*
   e   *o*
     a

In reality, the developments were more complicated because of the additional distinctive features of pitch not taken into consideration here. The resulting state of affairs, with not a single phoneme participating in the opposition of length vs. brevity created a serious peril for the opposition in pitch, since it was associated with length.

To summarize, the abolition of *ŭ* and *ĭ* and the rise and subsequent fall of the *jers*, whatever the dialectal phonetic value of the latter, were basically caused by the switch of Sl toward a "consonantal-type" language and were brought about factually by the new trend toward severance of the subsystems of long and short vowels. In the long run it was but a stage in the development toward a reunification of the two subsystems into a single system of vowels. As will be shown in 33,16–17, some languages achieved this temporarily lost unity by abolishing the opposition in phonemic pitch and quantity, others by reintroducing the opposition in pitch and quantity in all or most of the vowels.

As for vowel alternations, this is how the main series of alternations appeared at the time (again ignoring the pitch):

[27] It would be the same for Pb, only with *å* instead of *ə*.

e : *o*-series: *e* : *o* : *ě* : *ā* : ≠ : ъ : ь : *ȳ* : *ī*
ei : *oi*-series: *ī* : *ě* : ь : *e* + *j* : *o* + *j* : (ь + *j*) : (*ě* + *j*) : (*ā* + *j*)[28]
eu : *ou*-series: *ū* : ъ : *ȳ* : *e* + *v* : *o* + *v* : (*ě* + *v*) : (*ā* + *v*), : (ъ + *v*) : (*y* + *v*)
*e*N : *o*N-series: *ę* : *ǫ* : *e* + N : *o* + N : ь + N : ъ + N : (*ě* + N) : (*ā* + N) : *ȳ* + N : *ī* + N
*e*R : *o*R-series: R*ě*/R*e*/*e*R*e*[29]: R*ā*/R*o*/*o*R*o* : ьR : ъR : *e* + R : *o* + R : *ě* + R : *ā* + R : ь + R : ъ + R : *ī* + R : *ȳ* + R.

These incoherent and overlapping series could hardly play any constructive, functional part in the language of the time. They were irrelevant for the survival or loss of *ŭ* and *ĭ* (or ъ and ь). If they still exerted any influence it is likely that the link to be most easily dropped was precisely that of *ŭ* and *ĭ*. For a long time these played the functional role of zero grade (See 5,8 and 23,12). Nothing was easier, from the point of view of alternations, than to replace them by a real zero.

There could have been, at least for a part of the Sl area, an additional factor favoring the reduction of *ŭ* and *ĭ* with their subsequent loss. Turkology points out that the Uralo-Altaic languages of the Volga basin are marked by a tendency to shortening and reduction of closed vowels; the fall of these vowels in these languages causes a compensatory lengthening in the vowel of the preceding syllable. If these features of the Volga Uralo-Altaic languages are old and characterized also the language of the Volgo-Bulgars who, after 679 settled in the Balkans, Sl contacts with the Proto-Bulgars would explain why the rise and loss of the *jers* started earlier in the Balkans than anywhere else. Like all such parallels this is conjectural and even if such an influence did take place it did not determine the direction of the Sl sound changes. It could only have accelerated them.

14. Effects. In section 13 a general outline of the Sl vocalic systems after the loss of *jers* was given. The merger of the reflexes of *jers* with *e*, *o*, or *a*, or, finally, the presence of a separate phoneme which continued the *jers* (*ə*, *å*) became problems of the individual Sl languages. So it was also with compensatory lengthenings or concomitant narrowings of vowels in the preceding syllable. All these questions belong to the histories of the respective languages and are beyond the scope of any prehistory of Sl.

But there were also some important consequences of the rise and fall of the *jers* which were shared to a greater or lesser degree by all the Sl languages. The loss of the *jers* and its repercussions changed the whole pattern of Sl. They mark the division between CS and prehistorical Sl on the one hand, and the historical Sl languages on the other. This division is based not only on the linguistically accidental fact of the appearance of the first coherent written records of Sl but also on the profound differences in the very structure of Sl before and after the loss of the *jers*, which coincides roughly with the time of first written texts.

[28] + indicates a syllable boundary.
[29] A slant indicates dialectal variants.

The common consequences of the loss of *jers*, which reshaped the structure of Sl, were the following:

a) Before the loss of the *jers* all full-fledged words ended in a vowel. This was a principal difference between a morpheme which could and usually did end in a consonant and a word as a superior unit. E.g. in OCS *razboinikъ* [razbojьnikъ] 'robber' each morpheme except the last ended in a consonant: *raz-*, *-boj-*, *-ьn-*, *-ik-*. They formed a word only by adding a last morpheme ending in a vowel: *-ъ*. This difference was now swept away. The Sl word was losing its most distinctive phonetic characteristic.

b) Zero endings, which played an utterly subordinate part previously (they were used in 2–3 sg aor) became important after the loss of the *jers*: *razboinik-ъ* > *razboinik-*$\neq$.

c) Closed syllables were reintroduced in Sl. Prior to the loss of the *jers* the syllable in Sl was in its structure a fairly automatic unit incapable of great variety. It invariably ended in a vowel and the only choice was that of having a consonant or one of the few admitted consonantal clusters at the beginning of the syllable. By the same token the syllable was virtually excluded from any variability in its structure and devoid of any functional load. After the loss of the *jers* it became possible to utilize syllable types for specific functions, although, in fact, in the later histories of most Sl languages this was not often done. In most cases the syllable boundary still comes immediately after the vowel, no matter how many consonants follow (e.g. R *óstrov* 'island' is syllabicated *ó||strov*) and closed syllables as such are accepted in most instances only in absolute word-final position. But in certain cases morphemic boundaries influenced syllabic boundaries (e.g. R *rabótnik* 'worker' seems to be syllabicated rather as *ra||bót||nik*), and in many cases there is at least the possibility of an interplay between morphemic and purely phonetic factors.

d) Differences in the treatment of weak and strong *jers* made the problem of "fugitive" vowels important in all the Sl languages. This was not a new problem. IE alternations included a zero and Sl still preserved alternations of the type R *gorét'* 'burn' : *gret'* 'warm'. But the old "real" zero grade in vowel alternations of CS had been largely replaced by a functional zero, i.e. *ŭ* or *ĭ*, so that instances of alternations of vowels with $\neq$ were rare and marginal. With the loss of the *jers* alternations with $\neq$ became frequent; they were particularly important in that they marked some of the suffixes with high frequency, as *-ъkъ*, *-ьcь* in subst, *-ьn-* in adj, etc. (E.g. R *molotók* : *molotká* 'hammer', *ptenéc* : *ptencá* 'fledgeling', *tëmnyj* : *tëmen* 'dark'). As shown above, not all the Sl languages accepted this kind of alternation (See section 11), but most did.

In the long run all these changes made the morphological and morphophonemic structures of the Sl languages more abstract, relying more on relations and correlations than on material, phonic elements. In this respect the texture of the Sl languages became subtler, more sophisticated.

e) An immediate result of the loss of the *jers* was the rise of new consonantal clusters, numerous and multiform, some of them articulatorily almost unfeasible, as *tьsti* becoming +*tsti* 'father-in-law' (gen sg) or *stьblo* becoming *stblo*

(dialectally *st'blo*) 'stalk'. No Sl language accepted all of the new clusters. In the long run some languages incorporated most of them into their system and usage (e.g. P), others eliminated many of them (e.g. SC). Some languages proved to be more inclined toward simplification of the clusters, others to inserting anaptyctic vowels. But disregarding these variations, all the Sl languages after the loss of the *jers* increased their ability to use consonantal clusters.

f) Not only did the number of acceptable consonantal clusters increase but also the frequency of consonants in the speech stream and, what is more important, their functional load. If preceding palatalizations of velars and alterations of *j*-clusters laid the foundations for a "consonantal" type of language, the loss of *jers* made the transition to this type of language a reality. In this respect, after the loss of *jers* Sl joined, typologically, such modern languages of the west as Germanic. Dialectally, however, mainly in the east, the transition to a "consonantal" type of language gave rise to a special type of phonemic opposition, that of palatalization in consonants, which is alien to most Western European languages. This problem is treated in chapter 31.

g) The repatterning of Sl into a "consonantal" language seriously threatened the oppositions of pitch and quantity in vowels. The ensuing rebuilding of that system is the subject of chapters 32 and 33.

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30. DEVELOPMENTS IN THE GROUPS CONSONANT + *u* OR *i* + SONANT + CONSONANT AND IN THE GROUPS CONSONANT + SONANT + *u* OR *i* + CONSONANT (TYPES C*u*SC, C*i*SC, CS*u*C AND CS*i*C)

1. General statement. 2. Territorial variations in the treatment of C*u*SC, C*i*SC groups: preliminaries. 3. The Eastern group. 4. The Northwestern group. 5. The North Central group. 6. The Southwest Central group. 7. Bulgarian. 8. Summary: types and areas. 9. Remark on quantity and pitch. 10. Chronology. 11. Conditions and effects. 12. Remark on expressive variants in the reflexes of C*u*SC, C*i*SC groups. 13. Remark on word-initial groups of sonant + *ŭ* or *ĭ* + consonant (Type S*u*C, S*i*C)

1. The groups *ur*, *ir*, *ul*, *il* between consonants, which had arisen in early CS from syllabic sonants S̥ [*r̥ l̥*] (See 5,1) persisted through the entire period of CS, in all probability till the rise of the *jers* from *ŭ*, *ĭ*, i.e. ca. 800 AD (See 29,5), although possibly not equally long in all dialects (See sections 5, 6, 8). The tendency to eliminate diphthongs did not affect them. In terms of status *ŭ* and *ĭ* belonged to the same series of sonants as *r* and *l* and the sonority could have been distributed evenly between the two components; in fact the peak of sonority in these groups could even have been on *r* and *l*. In either case the groups C*ŭr*C, C*ĭr*C, C*ŭl*C, C*ĭl*C did not have the features of descending diphthongs of the type C*ou*C or C*or*C.

If the peak of sonority was on the liquids, *ŭ* and *ĭ* could easily have been lost at some date prior to the general loss of *jers*. This would mean that CS resumed its earlier syllabic sonants. There are no facts to corroborate such a contention, however. At least as late as the time of the first palatalization of velars CS still definitely had *ĭ* distinguished from *ŭ* before sonants in these groups. This follows from the change of velars into palatals in this position: the rise of palatals in, say, OCS *črънъ* 'black', R *čërnyj* as compared to OPr *kirsnan* 'black', OCS *žlъtъ* 'yellow', R *žëltyj* as compared to Li *geltas* 'yellow' can be accounted for only by assuming the presence of a front vowel between the velar and the sonant: ***kĭrn-**, ***gĭlt-** To salvage the situation it may be contended that while *ŭ* and *ĭ* had been lost by that time, in *ir*, *il*-groups the remaining *r̥*, *l̥* assumed a palatalized character: *r̥'*, *l̥'* and it was this palatalization which caused the change of the preceding velars. Such an assumption, however, would not hold up. First, there are no traces of the palatalization of these sonants in any Sl language, nor in those OCS texts which marked palatalization of *r*, *l* and *n*. Secondly, if *r̥'*, *l̥'* did exist and functioned as front vowels they would soon have caused the third palatalization in the following velars, which was not the case (See 23,2). Finally, as will be shown in this chapter, the further develop-

ment of the groups *Cu*SC, *Ci*SC is much more easily understood if the preservation of *ŭ* and *ĭ* in these groups is posited.

Thus, retention of *ŭ* and *ĭ* in these groups is ascertained at least until the time of the first and third palatalizations of velars, and there are no facts which would indicate their loss anywhere in the Sl world long before the change of *ŭ* and *ĭ* into *ъ* and *ь*. At that juncture, when normally *ŭ* and *ĭ* were about to be lost, they underwent certain changes also in the position before *r* and *l*, but not necessarily identical with those in other positions. Their treatment in this special position varied according to dialect.

2. Territorial variations in the treatment of C*u*SC, C*i*SC groups: preliminaries. In two groups of Sl dialects *ŭ* and *ĭ* in the contexts under scrutiny were treated in the same manner as *ŭ* and *ĭ* in all other positions with one major difference: to judge by the final results of the development, independently of the presence or absence of a weak *jer* in the next syllable, *ъ* and *ь* which arose from *ŭ* and *ĭ* in *Cu*SC, *Ci*SC groups always developed as strong *jers*. Some other differences in the treatment of these *jers* will be illuminated in section 3. The two dialectal groups referred to are the Eastern (R, Br, and U) and the Northwestern (Pb and US) (The data from place-names in NE Germany seem not to show to what extent the extinct Sl dialects of the area also belonged to the NW group).

A more complicated treatment characterizes the North Central group (P, LS and ESk). Here *ŭ* and *ĭ* were partly petrified and retained as such; partly *ə* may be supposed to have undergone the same petrification; partly it developed like regular *jers*, toward *e*. These differences depended largely on the phonetic environment.

The fourth dialectal group, which may be labeled South Central, encompassed Sk (except the ESk dialects), Cz, Sn, SC and M. Here *ŭ* and *ĭ* were dropped in the *Cu*SC, *Ci*SC groups in all positions, which resulted in the rise of new *r̥*, *l̥*. This also was the initial stage in Bg, but it shortly began to evolve in its own peculiar way, so that from the point of view of later development it may be considered separately. For further specifications regarding this classification see section 8.

3. The Eastern group. Here *ŭ* and *ĭ* in the *Cu*SC, *Ci*SC groups were treated as regular strong *jers*, that is there arose groups CъSC, CьSC which later, when strong *jers* became *o* and *e*, also changed into C*o*SC, C*e*SC. Under the same conditions as any other *ь* this one after hushing consonants yielded *o*, not *e*. Examples[1] are:

R *vérba* 'willow', Br *vjarbá*, U *verbá* – cf. OCS *vrьbie*, Li *vir̃bas* 'switch';
R *gorn* 'furnace', Br *hóran*, U *hórno* – cf. ChSl *grъnъ* 'kettle', OI *ghr̥ṇás* 'glow';
R *čëln* 'boat', Br, U *čóven* – cf. OR *čьlnъ*, Li *kélmas* 'tree trunk';
R *dolg* 'debt', Br *dowh*, U dial *dovh* – cf. OCS *dlъgъ*, Go *dulgs*.

[1] As examples of *Cu*SC, *Ci*SC groups are cited extensively in 5,4–5 only a few sample illustrations will be taken up in this chapter.

A peculiarity of this group of languages, which is shared with Pb but only partially with US, is the complete merger of C*ŭl*C and C*ĭl*C groups in the type C*ъl*C. No palatalization of consonants marks the original C*ĭl*C groups so that they are discernible after hushing consonants only. The root **dĭlg-* 'long' thus became homonymous with the root **dŭlg-* 'debt' cited in the above paragraph. Cf. R *dólgij* 'long', Br *dówhi*, U *dóvhyj* as compared to OCS **dlьgъ* (spelled *dlъgъ*), Li *ilgas* (with *d-* lost), OI *dīrghás*. In this labialization Br and U went even further than R, labializing not only the vowel but also *l* into *u̯* still in the time prior to the loss of *jers*. In the transliteration of the above examples this [u̯] is rendered as *w* and *v* respectively.

Another dialectal peculiarity is known in ESl and in particular characterizes NR. Potebnja, who studied this feature called it second pleohpony. Second pleophony is a repetition of the vowel which arose from a *jer* in C*u*SC, C*i*SC groups and is used before *r* or *l*, after these sonants. The inserted vowel is *o* after *l*, *o* or *e* after *r*, according to the vowel in the preceding syllable, e.g. *verestъ* 'verst' (gen pl) (Pskov Chr, under 1400), *oderenь* 'fully' (Charter of the fifteenth century, Dvina area), *na Torožku* 'in Toržok' (Novgorod treaty, 1269–70), etc. Mo NR dialects, in particular the NW, have a variety of such examples. The forms with the second pleophony do not occur as a rule before syllables with vowels other than weak jers: *verest* (gen pl) but *verstá*, *tórog* 'market' but *tórga* (gen sg).

It is unclear whether the second pleophony arose phonetically, through lengthening of the sonant as a concomitant of the loss of the *jer* : *vьrstъ* > **vьr̄stъ̑* > *vьrьstъ̑* > *verest*; or morphologically, by analogy with numerous instances of paradigms having newly developed fugitive vowels: *tórog* : *tórga* instead of *torg* : *tórga* following the pattern of *toržók* : *toržká*. In NR dialects, as is generally known, the alternation of *o*, *e* with ≠ has been spread far beyond its original boundaries: forms like (*olén'* :) *ol'nja* 'deer' are used there instead of standard R and historically correct *olénja*; from these dialects R has *potolók* : *potolká* 'ceiling' instead of the historically correct *potoloka*. In standard R there are only a few words considered as having the second pleophony, possibly adopted from NR: *dólog* 'long', *verëvka* 'string', *súmerečnyj* 'crepuscular', possibly *derévnja* 'village'.

Harbingers of the second pleophony were sought in OR spellings especially typical of the Novgorod and Pskov areas, with *jers* on both sides of the sonant, of the type *pьrьsty* 'fingers' (Ostr) instead of the more frequent ESl *pьrsty* and OCS *prьsty*. An objection was raised that these spellings were of a purely graphic character, being a blending of local and OCS pronunciation and spelling. Yet such blendings are otherwise unknown in OR spelling. E.g. in cases of the first pleophony one finds either ChSl (*zlato* 'gold') or local (*zoloto*) spellings but never blended: spellings of the type, say, ⁺*zolato* occurred nowhere.

Thus, spellings of the type *pьrьsty* rather rendered the real pronunciation and marked the beginning stage of the second pleophony. There is however an important difference between these forms in the old texts and in the modern dialects. In the texts they are found before syllables with *jers* as well as before syllables

with other vowels, while in modern dialects they occur only before syllables with lost *jers*. E.g. the old texts would have both *vьrьsta* and *vьrьstь*, the modern dialects *verest* but *versta*.

Some light can be shed on this if the NR second pleophony is examined in connection with another feature of the NR (and standard R) reflexes of *jers*. In this area *jers* after *r* and *l* (CS*u*C, CS*i*C groups) changed into *o*, *e* independently of the vowel of the next syllable. For example, not only did *krъvь* 'blood' become *krov'* but the dat sg *krъvi*, where ъ apparently was in a weak position, yielded *króvi*; likewise *krъvavъ* > *krovávʼ(yj)* 'gory', *xrьbьtъ* > *xrebét* 'spine; ridge', *trьvoga* > *trevóga* 'alarm', *krъxa* > *kroxá* 'crumb', *drъžati* > *drožát'* 'shudder', *strъgati* > *strogát'* 'plane', etc. This means that *jers* were retained as vowels after *r*, *l* before a consonant in words of this type[2]. The second pleophony examined against this background and considered as a phenomenon which originated before the loss of the *jers* permits the reformulation of this rule: *jers* next to (non-initial) *r*, *l* whether of CS origin or inserted in NR, were retained in a weak position and developed into *o*, *e* unless preceded by another *jer*. Thus:

(1) CS **pŭlkŭ* > NR *pъlъkъ* > NR *polok* (e.g. Hyp sub 1146);
(2) CS **pŭlka* (gen sg) > NR *pъlъka* > NR *polka*
(3) CS **krŭvī* (dat sg) > R *krъvi* > R *krovi* (Strong *jers* underlined).

In cases of the type (1) a *jer* was inserted in NR after the sonant and, being in strong position, yielded *o* in NR. Independently of this the first *jer*, before the sonant, was treated as strong and also became *o*. In (2) a jer was inserted likewise after the sonant, as witnessed by OR spellings of the type *pъlъky* (Min. Put. of the eleventh century); but being in weak position and preceded by another *jer* it was lost at the time of the fall of weak *jers*. Finally, in (3) the *jer* after the sonant was inherited from CS; being in weak position but not preceded by another *jer* before the sonant it survived and became *o*.

This explanation, thus, accounts for the second pleophony in its modern dialectal form as well as for the OR spellings and the preservation of vowels from *jers* in weak position in words of the type *krъvi* > *króvi*. What still remains unclear is the geography of both phenomena in the modern dialects and especially i the old ESl area. Because nowadays the second pleophony seems to be particularly typical of NR the whole development is ascribed here to NR. But this may not be quite adequate. Instances of the second pleophony were recorded also in SR and spellings with *jers* on both sides of a sonant definitely occur not only in NR texts but are also scattered in those from the SR area and from Br and U. It would be more prudent to speak about a predominantly NR development with a qualification about the necessity to specify it areally.

To come back to the *krъvi* type, it developed differently in Br and U. The sonant did not affect the development here, as the *jer* was lost the same as all *jers* in weak position, and for a certain time the cluster *krv-* (in formula CSC) existed. Then in the thirteenth – fourteenth century in the dialects of the Kiev-

[2] On their treatment in initial syllables beginning with *r* or *l* see section 13.

Poles'e area a vowel was inserted anew after the sonant, this time usually *y* or *i*, e.g. *skryžetъ* 'gritting' < *skrъžьtъ* (Gospel of Luck, fourteenth century). In the dialects of the Halyč-Podolia area, now SW U dialects, the CSC clusters were tolerated much longer, in fact in some local dialects until the present time, while in others various anaptyctic vowels were inserted before or after the sonant: *kyrvávyj* ~ *kərvávyj* ~ *kryvávyj* ~ *kervávyj*, etc. These insertions are hardly older than the sixteenth century. Modern standard U has *ry, ly*, modern standard Br *ry* and *ly* or *li*, e.g. Br *kryvávy* 'gory', *bliščác'* 'glitter', *hlytác'* 'swallow'; U *kryvávyj, blyščáty, hlytáty*. *o* occurs only if influenced morphologically within a paradigm: *krov*, gen sg *króvi*. None of these vowels is a direct reflex of an older *jer*.

4. The Northwestern group. This group is represented by Pb and US. In their treatment of the C*u*SC, C*i*SC groups these two languages are reminiscent of the Eastern group, although differing in details: they have nothing resembling the second pleophony. In US the treatment of *jers* after *r* and *l* is the same as in other environments; as in Br and U but not R, *jers* had been lost in this position, and the consonantal clusters which arose were partly simplified, partly salvaged by inserting the anaptyctic vowels *i, y* or *u*: *krwě* 'blood' (gen sg), *krwawny* ~ *krawny* 'gory', *pcha* 'flea' < *blъxa* through **blxa* > **bxa, ścina* 'reed' < *trъstina* vs. insertions in *sylza* 'tear' < *slьza, chribjet* 'back' < *xrьbьtъ, jabluko* 'apple' < *jablъko*.

Pb has preserved *jers* as expected in disyllabic words (See 29,9): *drăvă* (drawa) 'wood' < *drъva, tråstái̯* (troastay) 'reeds' (nom pl) < *trъsti*, as well as in the pretonic syllable of trisyllabic words: *grámət* (chramat) 'thunder' < *grъměti*. The really weak position is represented by *tråstíněk* (trastinik) 'reed' < *trъstenikъ* but with only one example it is impossible to say whether retention of *jer* here represents a peculiar development after a sonant or is due to analogy with *tråst* (troâste). Thus, while US certainly did not have any special treatment of *jers* after sonants, for Pb one can say only that there are no indications that such a treatment took place.

In C*u*SC, C*i*SC groups Pb, like the languages of the Eastern group (as well as Ka), let C*ŭl*C and C*ĭl*C groups merge by labializing C*ĭl*C into C*ŭl*C; the vowel before the sonant is always retained: it is either identical with the normal reflexes of the *jers* or close to them. The first occurs in C*ĭl*C and C*ŭl*C groups as well as in C*ĭr*C groups before hard dentals; the second in C*ĭr*C groups in all other positions and always in C*ŭr*C groups. The attested reflexes in Pb are:

(1) C*ŭr*C > C*or*C (*górnək* (ggôrnak) 'milk pot' < *gъrnъkъ*)

(2) C*ĭr*C > C*ar*C unless the second consonant is a hard dental (*várbă* (warba) 'willow' < *vьrba*);

(3) C*ĭr*C > C*or*C before hard dentals (*źornŭ* (sgorní) 'grain' < *zьrno*);

(4) C*ŭl*C, C*ĭl*C > C*åu̯*C (dialectally C*u*C) (*cåu̯n* (zaun) 'boat' < *čьlnъ* as well as *dåu̯g* (dauk) 'debt' < *dъlgъ*).

The preceding consonant is hard before *ĭl* reflexes and also before *ĭr* reflexes unless (in the latter case) followed by a hard dental.

The vowels in (2) and (4) are normal reflexes of the *jers*: *å* and *a*. In (1) and (3) *o* is not. Like any Pb *o* it must go back to *a*, thus the closest vowel to the normal reflex of the *jers*, *å*. One might surmise that it could first have been *å*, which lost its labialization before *r* while normally preserving it before *l*. With this conjecture, it may be said that the original Pb reflexes of the vowels in C*u*SC, C*i*SC groups were identical with the normal reflexes of the *jers*, as in the Eastern group.

In US only *o* or *e* are found, i.e. the same vowels which reflect *jers* in other positions (See 29,10). But the distribution is not the same. The original ъ is represented here as *o*, the original ь frequently as *e*, but *o* occurs instead before hard dentals and, in the case of C*ĭl*C groups, also after dentals. Examples are:

(1) C*ŭr*C > C*or*C: *hornc* 'pot';
(2) C*ĭr*C > C*or*C before hard dentals: *zorno* 'grain';
(3) C*ĭr*C > C*er*C in all other environments: *wjerba* 'willow';
(4) C*ŭl*C > C*ol*C: *dolh* 'debt';
(5) C*ĭl*C > C*ol*C before hard dentals: *čolm* 'boat' (*m* < *n*); also after dentals: *dolhi* 'long';
(6) C*ĭl*C > C*el*C in other environments: *wjelk* 'wolf[3].

As *e* in US changed into *o* before hard dentals (See 28,3), the double reflexes of the C*i*SC groups (*e* and *o*) are not surprising. But while in its usual reflexes of *jers* US was classified with the other languages of the one-*jer* group, in its reflexes of *jers* in C*u*SC, C*i*SC groups it rather follows the pattern of the two-*jer* languages, with *o* as the basic reflex of ъ and *e* as the basic reflex of ь. Like the languages of the Eastern group, US also treats *jers* in C*u*SC, C*i*SC groups as being always strong.

5. The North Central group. This group is represented by P, LS and ESk. It has the most variegated reflexes of C*u*SC, C*i*SC groups, uniform for the three languages. These reflexes depend on the consonantal environment. It is primarily the preceding consonant which determines the reflex of the vowel but the following consonant also affects the choice. In contradistinction to the two language groups discussed previously, the NCe languages vary not only the character of the vowel but also its position: it is used in certain cases after the sonant.

If minor dialectal differences and secondary levelings are disregarded the situation lends itself to the following presentation:

a) C*ŭr*C groups. The only reflex is C*ar*C, in LS with a secondary palatalization of preceding velars: P *garnek* 'pot', LS *gjarnc*, ESk *harnek* < **gŭrn-*.

b) C*ĭr*C groups. There are split reflexes according to what consonant follows. Before a hard dental the reflex is the same as for C*ŭr*C, i.e. C*ar*C; e.g. P, LS *twardy* 'hard', ESk *tvardi* < **tvĭrd-*. In all other positions nowadays it is C*er*C,

[3] With the exception of *polch* 'dormouse'. The same form also occurs in Ka place-names: *Polchen(Berg)*, *Polchower (See)*, *Polchow*.

but OP (until the late fourteenth century) had C*ir*C and some local ESk dialects still have it. One may assume that the original reflex was C*ir*C and that the C*er*C forms are of a somewhat later date: OP *wirzba* 'willow', P *wierzba*, LS *ujerba*, ESk *verba* ~ *virba* < **vĭrba*.

c) C*ŭl*C groups. The reflexes in P are threefold, depending on the preceding consonant. After dentals it is *łu* : *słup* 'post, column'; after labials *oł* (with the later change *o* > *u*): *pułk* 'regiment' (should be spelled *półk*); after velars *eł*: *chełm* 'hill'. LS and ESk have identical reflexes after dentals: LS *słup*, ESk *słup*. For the position after labials and velars reliable examples are lacking[4]. The words which contained these groups, very few as they were, fell into obsolescence.

d) C*ĭl*C groups. The reflexes are of four types. After dentals they coalesced with the reflexes of C*ŭl*C groups: P *długi* 'long', LS *dłujki*, ESk *dłuhi*. After palatals (hushing consonants) it is basically *oł*, with a possible later change of *o* > *u*: P *żółw* 'tortoise', LS *žołw*, ESk *žolč'* 'gall'. After labials the reflexes are split depending on whether or not a hard dental follows. In the first case the reflex is *eł*, with further labialization of *e* into *o* in LS and ESk: P *pełny* 'full', LS *połny*, ESk *połni*. In the second case it is *il* in P and ESk, *el* in LS: P *wilk* 'wolfe', LS *wjelk*, ESk *vil'k*.

This variety of reflexes is usually explained by assuming that in C*u*SC, C*i*SC groups *ŭ* and *ĭ* were lost and the sonants became for a time syllabic (CS̥C, CS̥'C), then acquired anaptyctic vowels, their character and place depending on the consonantal environment. Such an explanation is acceptable in principle, although it has a few unexplained points. The basic identity of all the variegated reflexes in P, LS and ESk suggests that the present reflexes are of an early date, that is from the time when *jers* still existed. Subject to reduction in certain positions, the *jers* were better fitted to the role of anaptyctic vowels than any other. It is strange that, according to this approach, they were not used for this purpose. Secondly, assuming a transitory syllablicity of sonants is of course one possibility; but it implies a very short duration for these sonants, and the reversal of a trend within a short time–in this case from non-syllabicity toward syllabicity and then back toward non-syllabicity – usually presupposes some powerful new factors affecting the language and causing a rapid switch. Yet no such factors have been indicated so far for the dialects of the P, LS and ESk area. Finally, the existence of palatalized syllabic sonants (CS̥'C) must be surmised in order to explain the non-coincidence of C*u*SC and C*i*SC reflexes in most positions. But the existence of palatalized syllabic sonants, i.e. an opposition in palatalization in syllabic sonants, as pointed out in section 1, is a theoretical construct: they are virtually unattested in any Sl language. In addition, at the time during which the three languages could have had a common development the general opposition in palatalization was still little developed if at all and it would be rather unusual to find it predominantly or exclusively in syllabic sonants.

[4] ESk *klubo* 'joint, knuckle' corresponding in meaning to Sk *kĺb* is not necessarily of the same origin and may belong to the family of P *kłąb*, etc.

Because of all these difficulties the traditional theory of the transitory syllabicity of sonants cannot be considered proved, although it cannot be completely ruled out either. There does exist another possible explanation for the intricate NCe reflexes of C*u*SC, C*i*SC groups. With all their variety the vowels which are represented next to sonants reflect consecutive stages in the general development of *ŭ* and *ĭ* through *ə* (*ъ*) to later reflexes of *ə*, that is *e*, with subsequent labialization of *e* in certain consonantal environments.

The oldest stage, C*u*SC, C*i*SC with *ŭ*, *ĭ* retained, is represented in three positions:

a) C*ĭr*C with the second consonant not a hard dental: PO *wirzba*

b) C*ĭl*C after labials with the second consonant not a hard dental: P *wilk*;

c) C*ŭl*C with the first consonant dental, with metathesis: P *słup*. This is joined by C*ĭl*C with the first consonant a dental, revealing a merger of *ŭ* and *ĭ* in this position: P *długi*.

The next stage, *ə* before its change into *e*, if preserved, is continued by *a*. This occurred only before *r*, specifically in two positions:

a) C*ŭr*C: P *garnek*;

b) C*ĭr*C with the second consonant a hard dental: P *twardy*.

The next stage, the normal development of *ə* into *e*, is directly represented in two positions, which are however not quite the same in LS as in P and ESk:

a) C*ŭl*C with the first consonant velar: P *chełm*;

b) In P, C*ĭl*C with the first consonant labial and the second a hard dental: *pełny*;

c) In LS, C*ĭl*C with the first consonant labial and the second not a hard dental: *wjelk*.

This very *e*, possibly still in the *ə*-stage, underwent labialization after palatals and labials. This occurred in two positions in P and presumably in three elsewhere:

a) C*ŭl*C with the first consonant labial and the second not a hard dental: P *pułk*;

b) C*ĭl*C with the first consonant palatal: P *żółw*;

c) C*ĭl*C with the first consonant labial and the second a hard dental: LS *połny*, ESk *polny*[5].

The whole development may be summarized in the following table:

	P	LS	ESk	Formula[6]
1) Stage *ŭ*, *ĭ*:	*wirzba* > *wierzba*	**virba* > *wjerba*	*virba* ~ *verba*	C*ĭr*C (–D)
	wilk		*vilk*	L*ĭl*C (–D)
	słup	*słup*	*slup*	D*ŭl*C
	długi	*dłujki*	*dluhi*	D*ĭl*C

[5] In formulas and examples given here possible palatalization of consonants is disregarded.

[6] L is used for labials, D for dentals, P for palatals, G for velars, C as usual for any unspecified consonant (with the exception of those introduced in parentheses with a minus sign).

2) Stage ə:	*garnek*	*gjarnc*	*harnek*	CŭrC
	twardy	*twardy*	*tvardi*	CĭrD
3) Stage *e*:		*wjelk*		LĭlC
	chelm	?	?	GŭlC
	pelny			LĭlD
4) *e* labialized:		*połny*	*polni*	LĭlD
	żółw	*żołw*	(*žolč*')	PĭlC
	pulk (= *półk*[7])	?	?	LŭlC.

In this interpretation it is assumed that sonants in C*u*SC, C*i*SC groups never became syllabic and the vowels preceding them were never lost, but that in certain phonetic environments these vowels followed the normal development of *jers* (stages 3 and 4) while in others the presence of a sonant arrested the development at an earlier stage (as did also the presence of *j*, another sonant – see 29,6). This fully refers to stage (1). Stage (2), with ə, is ambiguous. It is possible, as detailed above, that it represents the petrified ə-stage, with ə transformed into *a* when otherwise ə was lost. But it is also quite possible that in these phonetic environments ə changed into *e* as usual and that before *r* this *e* changed into *a* somewhat later. If so, this is not a separate stage but a part of what is considered stage (3), and the whole variety of reflexes is to be reduced to three types. Furthermore, stage (4) is but a later development of stage (3), so that historically one may speak of just two stages. Reduced to these two stages the historical development, then, was:

(1) Before *l*, *ĭ* was preserved without changing into ə after labials (unless followed by a hard dental) and (with labialization and metathesis) after dentals; and before *r* after any consonant if not followed by a hard dental; *ŭ* before *l* was preserved without changing into ə after dentals.

(2). In all other positions *ŭ* and *ĭ* changed into ə and then into *e*. Later this *e* yielded *a* before *r* in certain consonantal environments and was labialized into *o* in others.

With this explanation no simultaneous development of earlier (IE) syllabic sonants is assumed for the NCe group of prehistoric Sl dialects. Moreover, no specific development different from the general development of *jers* is assumed for C*u*SC, C*i*SC groups; their treatment differed only in that the qualitative changes in the phonetic environments listed under (1) were arrested, and all *jers* were treated as strong, independently of what vowel was in the next syllable. The latter feature was common with ESl and NWSl areas.

As for *ŭ* and *ĭ* after the sonants *r* and *l* (type **krŭvĭ* > *krъvi*) there were no peculiar changes in their immediate future. They were treated like regular *jers*, in strong position yielding *e*, in weak position being lost: P *krew* 'blood' : *krwi* (gen sg), *pleć* 'sex' : *plci* (gen sg), occasionally with subsequent simplifications

[7] In NP labialization spread also to the forms of the stage (3). In Mazovia forms of the type *wiolna* 'wool' are found, and the Bull of Gniezno, ca. 1136 twice has *Cholm* (as a place-name), etc.

of consonantal clusters, as in *lza* 'tear' < *slьza*, *jablko* 'apple' pronounced usually [japko] < *jablъko*; in LS *kšej* 'blood' : *kšwě*, *ldza* 'tear'; or occasionally with an insertion of a secondary vowel : *jabłuko* 'apple'. ESk usually has such inserted vowels but their later origin is betrayed by their arbitrary placement, before or after the sonant: *kref* : *kervi*, *selza*. Otherwise clusters are simplified: *japko* 'apple'.

6. The Southwest Central group. Five languages constitute this group: Sk (without ESk), Cz[8], Sn, SC and M. For this area a loss of the vowel in C*u*SC, C*i*SC groups is to be assumed, with the sonants becoming syllabic: CS̥C. Whereas in all the northern dialects the peculiarity in the development of C*u*SC, C*i*SC groups was the preservation of *jers* whether strong or weak, the SWCe dialects were characterized by the opposite peculiarity: loss of *jers* in these groups, whether weak or strong. This original situation is partly obscured by later vowel insertions, especially with l̥, and, in SC, alteration of l̥ itself.

The present distribution is as follows:

a) For r̥. Sk preserves r̥, except after č, where *e* is inserted: *vŕba* 'willow', *tvrdý* 'hard', *hrnček* 'pot', *žrd'* 'pole' but *červ* 'worm', *čerstvý* 'fresh', *čierny* 'black', etc., although in isolated cases still r̥: *črpák* 'scoop', *črvotoč* 'wormhole'; *žarnov* 'millstone' is a special case.

Cz preserves r̥, except after hushing consonants. In the latter case *e* is inserted. Examples of this insertion may be traced back to the twelfth century but the reliable ones fall into the time around 1400. Examples in Mo Cz are: *vrba*, *tvrdý*, *hrnec* but *žerd'*, *červ*, *čerstvý*, *černý*, *žernov*.

Sn, SC, and M preserve r̥ in all positions (in Sn dialects, e.g. of Lower Slovenia and Styria, as well as in some Čak SC r̥ > *ər* > *ar*, etc.), e.g.: Sn *vŕba*, *t(v)r̂d*, *gŕnec*, *žr̂d*, *čr̂v*; SC *vŕba*, *tvr̂d*, *gr̂nac*, *žr̂vanj* 'millstone'; M *vrba*, *tvrd*, *grnec*, *žrtva* 'victim', *crv*.

b) For l̥. Sk is the only Sl language which preserves l̥ in all positions, e.g. *vlk* 'wolf', *stĺp* 'post', *dlhý* 'long', *chlm* 'hill', *plný* 'full', *žlč* 'gall'. Dialectally, l̥ is found in the SC *Krašovani*-dialect (Romania) and in some M dialects (Galičnik, near Debar).

In Cz l̥ is retained only after labials, e.g. *vlk*, *plný*, *Plzeň*, city-name; yet even in this position it became *lu* if it developed from *ŭl* and not *ĭl* : *mluva* 'speech', *pluk* 'regiment'. This is also the reflex of l̥ after all other consonants: *sloup*, *dlouhý*, *chlum*, *žluč*. The distinction between *ŭl* and *ĭl* after labials apparently indicates that the vowel was inserted at an early date. In *mluva* and *pluk* it may be that *ŭ* in certain dialects has never been lost but only metathesized. But stabilization of *u* took place in historical times. The texts of the twelfth

[8] To judge by the variety of spellings in OCz texts and Cz borrowings in German, Cz was not uniform in this respect. It is possible that along with the dialects which had r̥, l̥ there were others with an optional front vowel on either side of the sonant (Cf. rhymes of the type *hirdě* 'proudly' : *vidě* 'seeing') and still others with an optional back vowel. Yet it is hard to say to what degree one may rely on these spellings and in any case forms with syllabic sonants eventually prevailed.

century still do not discriminate among spellings of the type *Dligomil* ~ *Dulgomil* ~ *Dlugomil*, personal name (Cosmas, Regesta 1176).

Sn, which to all appearances still had *l̥* in the fourteenth century[9], has now lost it completely. Graphically it is represented by *ol* which is pronounced [ou̯] if long, [u] or # if short: *vôlk*, *stólp*, *dôlg*, *hòlm*, *pôln*, *žôlč*.

Mo M has *ol*: *volk*, *stolb*, *dolg*, *poln*, *žolčka* 'gall-bladder'.

In SC *l̥* > *ọ* (*uọ*) in the fifteenth century, with a later change to *u*: *vûk*, *stûb*, *dȕg*, *hûm*, *pȕn*, *žûč*.

In Sk, Sn, SC and M the reflexes of the C*u*SC, C*i*SC groups coalesced with those of the CS*u*C, CS*i*C groups, independently of whether the *jers* to develop here from *ŭ* and *ĭ* would have been in strong or weak position. Cf. Sk *krv* 'blood', *brva* 'brow', *hrmieť* 'thunder', *trstina* 'reed', *krst* 'baptism'; *slza* 'tear', *plť* 'raft', *jablko* 'apple', *blcha* 'flea'; Sn *kȓv*, *obȓv*, *grmẹ́ti*, *tȓst*, *kȑst*; *sólza*, *jábolko*, *bólha*; SC *kȓv*, *ȍbrva*, *gr̀meti*, *tȓst*, *kȓst*; *sȕza*, *jȁbuka*, *bùha*; M *krv*, *grmi*, *trska*, *krst*, *solza*, *jabolka*, *bolva*.

In Cz, conversely, *ŭ* and *ĭ* after sonants normally developed into ə and then followed the rules for the loss of weak *jers* and retention, with the change into *e*, of strong *jers*. Accordingly *krъvь* : *krъvi* (dat sg) became *krev* : *krvi* with a non-syllabic *r* (*l*) as shown unambiguously by early Cz verse. See, e.g., the line of octosyllabic verse

1 2 3 4 5 6 7 8
ve krwi iakſtot vodye kale

(Alexandreis, 42) 'they harden (themselves) in blood like water'. It was only in the fourteenth century that these *r*, *l* not followed by a vowel obtained syllabicity, again as revealed in verses, e.g.

1 2 3 4 5 6 7 8
a krwaw od wrchu do pat

(*Nová rada*, by Smil Flaška, 1394) 'and bloodstained from top to heels'. In Mo Cz correspondingly *r* and *l* in these groups are syllabic if historically they were followed by a weak *jer*: *slza*, *brva*, *jablko*, *blcha*; but if a strong *jer* followed Mo Cz has *e*: *pleť* 'complexion', *tresť* 'reed', *křest* 'baptism'.

The difference in treatment points to a different chronology. In Sk, Sn and SC *r̥*, *l̥* in CS*u*C, CS*i*C groups and obviously also in C*u*SC, C*i*SC groups arose prior to the general fall of *jers*; in Cz it was only in C*u*SC, C*i*SC groups that this antedated the fall of *jers*; consequently, it was only much later, in the fourteenth century, that the former CS*u*C, CS*i*C (CSъC, CSьC) groups partially joined (in forms with *jers* in weak position) the sonants which had developed from the C*u*SC, C*i*SC groups.

M poses a special problem because of the contradiction between the situation in the modern language and that reflected in the OCS texts of M recension. These texts apply the same spellings to C*u*SC, C*i*SC and CS*u*C, CS*i*C groups respec-

[9] Such spellings are found as late as Trubar (1508–86) but other writers of the sixteenth century already used *ol*.

tively. In both cases *jer* is written after the sonant: *grъstь* 'handful' < **gŭrst-*, *vrьbie* 'willows' < **vĭrb-* in the same way as *krъvь*, gen sg *krъve* 'blood' < **krŭv-*, *krьstъ*, gen sg *krьsta* 'cross' < **krĭst-*; *vlьkъ* 'wolf' < **vĭlk-* in the same way as *slьza* 'tear' < **slĭz-*. This uniformity of spelling is deceptive however. It does not reflect an identity of pronunciation, as revealed by the changes brought about by the loss of *jers*. In words with original C*u*SC, C*i*SC-root structure *o* and *e*-spellings are never substituted for *jers*; nor is the *jer* of the preceding syllable, if present, treated as a strong *jer*: *sъmrьtь* 'death' never becomes either +*smert* or +*somrt*. With the original CS*u*C, CS*i*C groups however both changes are well attested, e.g. *krovьjǫ* 'blood' (instr sg) (Cloz), *voskrъse* 'resurrected' (Mar). It is to be inferred from these differences in treatment that in C*u*SC, C*i*Sc groups there was no *jer* pronounced at the time of the loss of *jers* and, consequently, the sonants were syllabic[10]. Conversely, in the CS*u*C, CS*i*C groups the *jers* as spelled were normal *jers* which followed the regular development of these vowels, and the sonants were not syllabic.

It is obvious then that in this point M had the same development as Cz: syllabic sonants in CS*u*C, CS*i*C groups arose only after the loss of *jers* in weak position. For a certain time the forms *krov*(ь) vs. *kr̥ve* coexisted, as they still do in Mo Cz. Then however M went a step further: as early as the twelfth century it generalized the forms with syllabic sonants so that *krov* was dislodged by *krv* ([kr̥v]), etc.[11].

As for the spelling in M texts prior to the twelfth century, which was the same for the C*u*SC, C*i*SC and CS*u*C, CS*i*C groups respectively in spite of their phonetic and phonemic distinction, it was imported to Macedonia. It originated from Moravian Sk where the two types of sonant groups merged completely by dropping their vowels and making their sonants syllabic: C*u*SC, C*i*SC, CS*u*C, CS*i*C > CS̥C.

To summarize, while in general the developments of sonant groups in the SWCc dialects were originally the same, the two peripheral dialectal units, Cz and M lagged behind in certain partial developments, which resulted in some local peculiarities reflected in historical times.

7. Bulgarian. Bg is singled out here because of its unique reflexes of C*u*SC, C*i*SC and CS*u*C, CS*i*C groups in modern times. Not only did the two types coalesce but in most of the dialects as well as in the standard language the sonant is accompanied by mobile *ə*: it appears now before the sonant now after it. The position of *ə* depends primarily on the number of consonants to follow. If there is one consonant *ə* is usually placed before the sonant, if more than one it is placed after the sonant, e.g. *vərbá* 'willow' but *Vrəbníca* 'Palm Sunday' < *vьrb-*, *gərné* 'pot' but *grəncí* (pl) < *gъrn-*, *kərvjá* 'bleed' but *krəvniná* 'murder'

[10] This is also revealed by a confusion of ъ and ь in words where *r̥*, *l̥* were syllabic. Only the KFr distinguished them, and to a limited extent Zo and Sa. In all other manuscripts ъ substitutes for ь in this position.

[11] As a matter of fact Cz also made generalizations of this kind, but only in a few isolated words: *hlt* 'sip', *plt'* 'raft'.

< *krъv-*. Yet there are numerous cases of levelings, mostly in favor of the postposition of *ə*, e.g. *səlzá* 'tear' but *slə́zen* 'lachrymal' (Cf. fem *slə́zna*) < *slьz-*, *dəlg* 'debt' but *dlə́žen* (Cf. fem *dlə́žna*) 'owing' < *dъlg-*, *gərmjá* 'it thunders' but *grəm* 'thunder' < *grьm-*, and even *krəv* 'blood' but *kə́rvi* (pl). There are dialects however which generalized the preposition of *ə* (Panagjurište area) and others in which the postposition of *ə* is a rule (Pirdop area).

This is a later development however. OBg as known from OCS texts of Bg recension had syllabic sonants for both C*u*SC, C*i*SC and CS*u*C, CS*i*C groups. That is, no vowel was used either before or after the sonant, and the two original types were not distinguished. This is obvious from the fact that, in contradistinction to M, in neither major OCS text of Bg recension, Sa or Su, is *e* found in place of the original *ь* in both C*i*SC and CS*i*C groups: *slьzъ*, gen pl, *vrьbie* do not occur as *+slezъ*, *+verbie*[12]. The only exception in the two ample texts, *krestъnyimъ* 'of cross' in Su, is either a misspelling or a Macedonianism. OCS spellings of the CSъC type are but a graphic convention for denoting what was phonetically CS̥C. Complete merger of *ь* and *ъ* in this position is one more indication that no phonetic reality lay behind the letter *ъ* in these spellings.

Thus, in its oldest stage Bg treated both C*u*SC, C*i*SC and CS*u*C, CS*i*C groups the same as Sk. In this period Bg may be considered a member of the SWCe group. But being the only Sl language which not only preserved *ə* (this was also true of Sn and OSC) but also increased the frequency of its use (by changing *ǫ* into *ə*), Bg in its further development introduced this vowel before or after syllabic sonants and, by transferring the syllabicity onto the inserted *ə*, returned the sonants to their consonantal status. The secondary and inserted character of *ə* explains its mobility. It is also characteristic that after *č* and sometimes after other hushing consonants *e* was inserted instead of *ə*: *čérvej* 'worm', *čérpja* 'scoop', *čéren* 'black', *žélva* 'tortoise' (but *žəlt* 'yellow') and even after a secondary *č*: *čérkva* 'church'. In Rhodopian dialects where *ъ* yielded *ô* this vowel is found: *bôrzo* 'fast', *pôrvo* 'first', with no discrimination between the original C*u*SC and C*i*SC groups either.

8. Summary: types and areas. A preliminary classification of the Sl languages and dialects according to their treatment of C*u*SC, C*i*SC groups was given in section 2. Now, after an examination of the data in more detail it is expedient to summarize the types of older developments and how they were distributed areawise, while disregarding minor details and later alterations which may blur the main lines. The classification is to be done separately for C*u*SC, C*i*SC and for CS*u*C, CS*i*C groups. Sample illustrations will be introduced in parentheses to remind the reader of the realities of the languages, but without detailing and translation and in a generalized conventional spelling, not necessarily that of any of the languages cited.

A. C*u*SC, C*i*SC groups: four types of development.

[12] Only *e* would be typical. One could not expect *o* from *ъ*, for in most Bg dialects *ъ* did not yield *o* (See 29, 10).

a) Retention of the most archaic stage: *ŭ*, *ĭ* retained as vowels next to the sonant: P, LS, ESk: *ĭ* after labials before *l* and after any consonant before *r* unless followed by a hard dental /vilk, virba/; *ĭ*, *ŭ* next to *l* after dentals, with metathesis /dlugi, stlup/.

b) Retention of *ə* represented by *a*. P, LS, ESk: *ŭ* before *r*, *ĭ* before *r* followed by hard dentals /garn, tvardy/. These reflexes however may be derived from the next type. The existence of (b) as a separate type is uncertain.

c) Normal treatment of ъ, ь before the sonant, but always as strong jers: R, Br, U, Pb, US (with distinction of ъ and ь otherwise not attested); in P, LS, ESk after velars /xelm/, palatals /želv/; *ĭ* after labials before *l* followed by hard dentals /pelny/, *ŭ* after labials before *l* followed by any consonant /pelk/,

d) Loss of vowel, sonant becoming syllabic: Sk, Cz, Sn, M and Bg /vr̥ba, vl̥k/. Later on, vowels were introduced in some languages of this type:

i) with *r̥* (then becoming *r*): in Sk *e* after *č*, in Cz *e* after all hushing consonants; in Bg mobile *ə* in all environments;

ii) with *l̥* (then becoming *l*): in Cz postpositional *u* after dentals, palatals and velars; in Sn and M prepositional *o* in all evironments; in Bg mobile *ə* in all environments. In SC *l̥* > *u*.

The most radical and the earliest innovation (prior to the general loss of *jers*) characterized type (d), i.e. the Southwest. Its tendency was toward the loss of the vowels. The opposite trend may be observed in NR with its second pleophony, bringing about the maximum vocalization. Otherwise the types (a), (b) and (c) all belong to the same trend, with the difference that in (c) the development was completed consistently while in (a) and (b) it was arrested at early stages in certain phonetic environments.

B. CS*u*C, CS*i*C groups: three types of developments.

a) Treatment of *ŭ* and *ĭ* as *jers*, but in all positions strong: R /krov', krovav/.

b) Treatment of *ŭ*, *ĭ* as regular *jers* without any peculiarities: Br, U, P, possibly Pb, LS, US, ESk, Cz, M /krov ~ krev vs. krvav/. In later developments sonants between consonants acquired syllabicity in Cz and M /kr̥vav/ or took on inserted vowels: Br, U /kryvav/. In M syllabicity spread even to forms before a vowel and then this vowel was dropped /krv/ so that M in its later development joined the type (c).

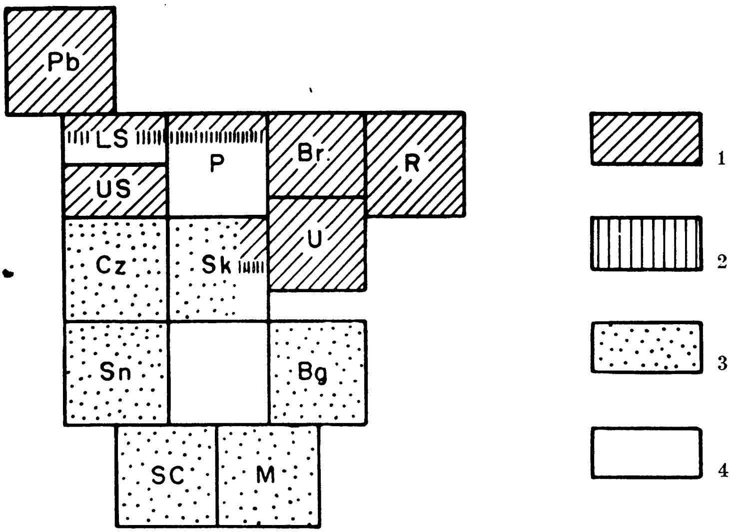
c) Loss of *ŭ*, *ĭ*, sonants becoming syllabic: Sk (except ESk), Sn, SC, and Bg. Later, vowels were partly reintroduced in the languages of this group: in Sn (and M) *o* before *l* /solza/, in Bg *ə* mobile /səlza ~ sləzna/. In SC *l̥* > *u*.

The tenor of the original development in (a) was retention of the vowels; in (c) loss of the vowels; (b) did not have any innovation peculiar to CS*u*C, CS*i*C groups. Diagrams 3 and 4 (pp. 480–1) show the developments schematically.

Thus, the common features in the local developments of both C*u*SC, C*i*SC and CS*u*C, CS*i*C groups weave through the whole diversity of specific phonetic variations: the SW innovating toward the vocalization of the sonants, the extreme NE innovating toward "pleophony" in the broad sense of the word, i.e. maximum of vowels, both opposed to the more conservative NW and

Diagram 3

Distribution of the oldest reflexes of *Ci*SC, *Cu*SC groups



1. Normal reflexes of *jers* (as in other positions).
2. Preservation of the ə-stage (as *a*).
3. Loss of *jers* and syllabicity of sonants.
4. Preservation of the original status (with *u*, *i*).

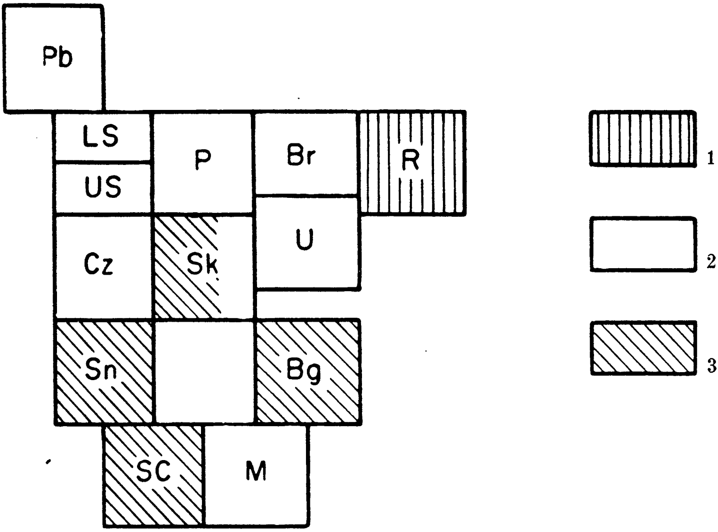
Central area. Paradoxically, a greater variety of reflexes in some languages of the NCe and NW resulted from the greater conservatism of these languages.

9. **Remark on quantity and pitch.** Syllabic sonants wherever they arose were susceptible to oppositions in quantity and pitch. They still have the distinctive features of length vs. brevity in Sk, cf. *vrch* 'top' vs. *vŕšok* 'hill', of both quantity and intonation in Sn and SC, cf. Sn *kȑč* 'cramp' vs. *kȓč* 'cleared woodland', SC *dũg* 'long' vs. *dûg* 'debt'. In Cz the syllabic sonants lost the capacity for length, which they still had in John Hus' time; the only vestige of the older stage when the opposition in quantity existed in sonants is found in the opposition *lu* vs. *lou* (< *lū*) from *l̥*, e. g. *dlužiti* 'owe' vs. *dloužiti* 'lengthen' (See 5,7).

In most cases the distribution of quantity and pitch in the reflexes of *Cu*SC, *Ci*SC groups as found in the modern Sl languages only indirectly may be traced to earlier relations, cf. FP in Sn, SC *gȓst* 'handful', with the expected brevity in Sk *hrsť* and OP (Knapski) *gárść* (Le *gùrste* 'bundle of flax') vs. RP in Sn *gŕlọ* 'throat', SC *gȑlo*, Sk (shortened under the original stress) *hrdlo*, OP (Knapski) *gárdlo* (with *á* denoting *a* without *pochylenie*) (Cf. Li *gùrklį* 'crop', acc. sg). Otherwise the distribution basically follows the rules set forth in chapters 32 and 33.

Diagram 4

Oldest treatments of CS*i*C, CS*u*C groups



1. Type A (See p. 479).
2. Type B.
3. Type C.

10. Chronology. The time in which various substitutes for *u*S, *i*S between consonants arose may be easily established in relation to the time of the loss of *jers*.

Those Sl languages which developed the syllabic sonants *r̥* and *l̥*, i.e. Sk, Cz, Sn, SC, M, and Bg must have lost the vowel in their C*u*SC, C*i*SC groups (and, except for Cz and M, probably also in CS*u*C, CS*i*C groups) earlier than they lost the *jers*, which in these languages was generally in the tenth century (See 29,12). Otherwise the *jers* would have developed normally here as elsewhere.

On the other hand, at least in the Sk area, the *jers* still existed in these groups in the sixties of the ninth century. This is obvious from an examination of the spelling system Constantine elaborated for OCS in Moravia, with *jers* indicated (and the two *jers* distinguished) after the sonants: *vrъbie*, *vlьkъ*. This spelling system shows also that in the Moravian Sk area although *jers* were still used with the sonants they were metathesized and, consequently, C*u*SC, C*i*SC groups coalesced with CS*u*C, CS*i*C groups. No such conclusions can be drawn in the case of M and Bg, where the spelling system was transferred and not adapted, at least in this respect, to the local pronunciation, as shown in section 6.

Thus, the rise of syllabic sonants in the Sk area occurred in the late ninth or early tenth century. No considerations preclude the assumption that this was

the time the syllabic sonants arose also in the other languages of this group in the original C*u*SC, C*i*SC combinations. As for the CS*u*C, CS*i*C sequences, in Cz and M they preserved their vowel until the general loss of *jers*, i.e. at least through the mid-tenth century, and the syllabic sonants in this position arose, as pointed out above, in the twelfth century in M and the fourteenth in Cz (See section 6).

In languages in which the *jers* in C*u*SC, C*i*SC combinations followed the general development of *jers* the *jers* in these groups should have been lost at the same time as all other *jers*, i.e. in the mid-twelfth century for U, the mid-thirteenth century for NR. This was established theoretically by Šaxmatov and is confirmed by an analysis of the way *jers* are marked in C*u*SC, C*i*SC groups in the oldest ESl manuscripts with musical notations (Koschmieder).

Finally, for the languages with partially arrested vowel development in C*u*SC, C*i*SC groups and partial alteration into regular *jers* (P, LS, ESk) the time of the final elimination of *jers* in these groups also coincides with that of the general fall of *jers*, e.g. for P not later than the eleventh century. The common development in P, LS and ESk, identical as a rule even in minor details, may point to an earlier time, perhaps the tenth century. Arrested development of the pre-*jer* stages naturally must have taken place sooner than the loss of *jers*, at the time of the transition from *ŭ*, *ĭ* to *ə* (ъ, ь). This is corroborated indirectly by the lack of palatalization in preceding consonants in P forms of the type *twardy* (i.e. erstwhile C*i*SC type): the absence of palatalization may show that *ə* (> *a*) here arose prior to the introduction of palatalization. For more details see 31,6.

These general considerations are to be confronted with an examination of borrowings from and into Sl.

The earliest Sl loan words with C*u*SC, C*i*SC groups in Fe and Balt still had pre-*jer* forms, i.e. with *ŭ* and *ĭ*:

Fi *turku* 'market place', Vot *turku*, Est *turg*, from **tŭrgŭ* (OR *tъrgъ*);
Est *tulp* 'column', from **stŭlp-* (OR *stъlbъ*);
Fi *tulkki* 'interpreter', Li *tùlkas*, Le *tul̃ks* – cf. OR *tъlkъ*;
OPr *curtis* 'greyhound', from Sl **xŭrtŭ*;
Fi *sirppi* 'sickle', Est *sirp* – cf. OR *sьrpъ*;
Fi *virpa* ~ *virpo* 'Palm Sunday', Kar *virbo-*, Lud *birboi* – cf. OR *vьrba* 'willow';
Fi *virsta* 'verst', Olon *virstu*, Est *virst* – cf. OR *vьrsta*.

The same substitutions are found in borrowings which took place in the reverse direction, i.e. into Sl, e.g.:

OR *Kъrsь* 'Courlanders', from Le *Kur̃sa* 'Courland', cf. Li *kur̃šas*, Fi **kurh-* (Livonian *Kurámo*);

OR *Terskij beregъ* 'South shore of the Kola peninsula', originally **Tьrьskъ*, from Fi *Turja*, cf. Kar *Tyrjä*;

NR *pert'* 'Karelian peasant home' (Cf. R *pá-pert'* 'church porch'), probably from Li *pirtìs* 'bathhouse'.

The same correspondences are found in the oldest ESl borrowings from OSw,

e.g. OR *kъlbjagъ* 'a Scandinavian', from ON *kylfingr* (MGr κούλπιγγοι 'mercenaries'[13]).

The oldest Sl loan words with the *CurC* groups are rendered by *CurC* in Hung, too, e.g. *hurt* 'greyhound' (1250), from **xŭrtŭ*; *hurvát* 'Croate' (1138), from **xŭrvatŭ*; *kurmán(os)* 'rudder' (1323), from **kŭrm-* (R *kormá* 'stern'); *murok* 'carotte' (1585), from **mŭrky* (R *morkóv'*). The mountains P *Tatry* (from *Tъrtry* > **Tartry*, cf. U *Tovtry*) are called *Turtur mons* in the *Gesta Hungarorum* of Ungaricus Anonymus (thirteenth century).

As for C*i*SC groups, they have *e* in Hung, not *i*, but it must be borne in mind that in the tenth – fourteenth centuries Hung changed its own *i* into *e*. Thus, *e* in loan words from Sl most likely stems from *ĭ*: *derce* 'bran' (1434), from **dĭrlĭca* (U *dert'* 'chops'); *peleh* 'dormouse' (fifteenth century), from **pĭlxŭ* (U *povx*).

The early borrowings from Tu, in general not so well studied as those from Fi or Germ, hint at the same phonetic value of C*u*SC, C*i*SC groups at the time of the old Sl-Tu contacts: Bg *bə̀lgarin* 'Bulgarian', SC *bȕgarin* derive from the OTu tribal name *bulγar* (MGr βούλγαροι); an old Bg dignity, *čгъgubilь*, may go back to a Tu form *ičürgü*.

In SC place-names of Rom origin one finds, e.g., *Krbelja*, island-name, from La *curva* 'curved', *Kȓk*, island-name, from La *Cur(i)cum*, Gr Κούρικον, *Vrbas*, river-name, from *Urpanus*, *Brgud*, town-name, from *virgultum* 'bushes'. Occasionally *r̥* is also found in place of the VLa combinations *or*, *ar*, *er* between consonants, e.g. *Trst* 'Trieste', from *Tergeste*; *Trsat*, town-name, from *Tarsatica*; *Oprtalj*, town-name (Istria), from *Ad Portulam*. This is due to the reduction of vowels before sonants in the local Rom dialects.

In Greek one finds in Procopius' *De aedificiis* (527–65) Βούρδωπες, Γούρβικον, castle-names (probably near Niš) which are possibly based on Sl **vŭrtₒap-* (OCS *vrьtъpъ* 'hollow'), **gŭrbĭkŭ* (later **gъrbьcь* 'hill'). These etymologies are uncertain however. Among the place-names still in use and with safer etymologies the oldest rendition of *CurC* groups is with -ουρ- (Κουρμπάτσι < **Gŭrbₒāčĭ*, Euboea). C*i*SC is represented by CerC, CelC, but the development of *ir*, *il* > *er*, *el* is a possibility within Gr (Βέρβαινα < **Vĭrbĭnₒā*, Arcadia; Δέλγα < **Dĭlgₒā*, Acarnania). As for C*ŭl*C groups, they occur rarely and then mostly with *el*, which makes one assume rather an *əl* stage in Sl: Χέλμος (Laconia), while -ουλ- appears only in names based on the name of the Bulgarians, e.g. Βούλγαρα (Acarnania).

Of particular significance for the vowel alterations in C*u*SC, C*i*SC groups are those names which were recorded in changing forms throughout the centuries. One illustration of this is the place-name in the later Germainzed but formerly Sl area, **Čĭrtₒavₒa* (now *Schartau*, distr. of Jerichow, west of Berlin). It is recorded in 948 as *Ciertuui* 965 *Cirtowa*, but 1156 *Scartowe*, 1161 *Schartouue*, 1186

[13] An interesting detail is that foreign *ü* was treated in the borrowings of the time as *u*. In addition to the preceding example cf. OR *tъrci*, a Tu tribe, from OTu *türk*, possibly also R *nórka* 'mink' if from the Fe word represented by Est *nürk*.

Scartowe. This places the change of C*ĭr*C into C*ar*C before hard dentals in the time between the tenth and the early twelfth century.

Such successive records of the same word in its alterations are rare however. Borrowings on the whole show only that when the Slavs established their new boundaries and contacts with Fe, Balt and Tu tribes, with the Rom population of the Adriatic littoral, with the Greeks and, several centuries later, with the Hungarians, i.e. at the time from the sixth through the ninth centuries, they still had in their language the old C*u*SC, C*i*SC groups. This does not furnish the scholar with any precise date for the beginning of changes in these groups but does corroborate the above statement that it could not have been sooner than the late ninth or early tenth century in any part of the territory the Slavs occupied.

11. Conditions and effects. The changes the C*u*SC, C*i*SC groups underwent were a part of the complex of more general changes, viz. the loss of *jers*. Only those C*u*SC, C*i*SC groups were spared of any qualitative changes which escaped the change *ŭ*, *ĭ* > ъ, ь by retaining their *ŭ*, *ĭ* intact before a sonant (the types P *wilk*, OP *wirzba*, or with metathesis alone, the type P *dług*). Such a hampering of the development toward *jers* occurred on a very limited scale, in terms of both phonetic environment and area of occurrence (NCe dialects, incipient P, LS and ESk).

In all other areas and, in the NCe area, in all other phonetic environments the *jers* arose and then the subsequent changes in C*u*SC, C*i*SC groups were necessitated by the impending loss of the *jers*. The difference was only that in the SCe area the change of C*u*SC, C*i*SC groups antedated and anticipated the general loss of *jers*. This gave rise to the syllabic sonants *r̥* and *l̥* in the dialects of the area. In the remaining areas, E, NW and to some extent NCe, the alterations of the vowels in C*u*SC, C*i*SC groups coincided with the general changes of *jers*, both in time and, essentially, in results.

Because of this concurrence the changes in C*u*SC, C*i*SC groups as a rule did not produce any changes in the inventory of phonemes, nor did they change the pattern of the syllable. In words of the type **vĭrb₀ā* the syllable boundary remained basically intact when *ĭ* became ь and ь became *e*: *vьrba* > *verba*. If there was a shift in the syllabic division of words of the type **tŭrgŭ* when, through *tъrgъ*, it became *torg*/*targ*, the reason was not the change in the root vowel but the loss of the final *jer*.

If one considers *r̥*, *l̥* as consonants merely fulfilling the functions of vowels, it may be said that in those Sl languages which lost the preceding *jers* (or *ŭ*, *ĭ*) and thus obtained syllabic sonants (*vr̥ba*, *tr̥g*) the frequency and variety of consonantal clusters increased. Indeed the syllabic sonants did not, as a rule, become independent vocalic phonemes: their syllabicity was conditioned by the phonetic environment: any *r*, *l* between consonants became functionally a vowel; leaning against a vowel it was again a consonant. It is only in OCz and possibly OM that *r̥*, *l̥* obtained phonemic status when the *jers* were lost in CS*u*C, CS*i*C groups, but their sonants did not become syllabic. The subsequent

transformation of these secondary interconsonantal *r*'s and *l*'s into syllabics eliminated this opposition and deprived *r̥*, *l̥* of their phonemic status, which, thus, was in the long run only transitory, though not of short duration.

The effect on vowel alternations which the changes of C*u*SC, C*i*SC groups produced in all the Sl languages, except those which developed syllabic sonants, was rather detrimental. The rise of syllabic sonants in the SCe area, on the contrary, could have made the system of alternations more lucid by restoring the zero grade in the *r* and *l*-series of alternations to its real nature, i.e. without any vowel. But the entire system of vowel alternations was so entangled and obscured that no change could efficiently restore order to it. In these languages the *r*-series, e.g., appeared at that time, theoretically, as

ra : *rě* : *or* : *er* : *ar* : *ěr* : *ъr* : *ьr* : *r̥* : *yr* : *ir*,

ra and *rě* standing for both full and long grades before a consonant, *or* and *er* for full grade before a vowel, *ar* and *ěr* for long grade before a vowel, *ъr* and *ьr* for zero grade before a vowel, *r̥* for zero grade before a consonant and, finally, *yr* and *ir* for lengthened grade. Besides, there was hardly a single morpheme in which all the representative grades were in use.

The isoglosses of dialectally diverse treatments of C*u*SC, C*i*SC (as well as of CS*u*C, CS*i*C) groups did not coincide with the isoglosses of other sound changes of the period, such as *tl*, *dl* > *l*, *₀ă* > *ŏ*, *ā*, metathesis of ORC groups, changes of CORC groups, etc. Nor did they delineate any individual Sl languages.

12. Remark on expressive variants in the reflexes of C*u*SC, C*i*SC groups. In those Sl languages which preserved a vowel alongside the sonant in C*u*SC, C*i*SC groups, i.e. in all except the SCe, vowels other than those normally expected are occasionally found. Characteristically, these variations occur before *r*, not *l*.

The following irregular vowels occur in these instances:

i: Br *svirčác'* 'chirp', U *cvírkaty* vs. regular forms in R *sverčát'*, P *świerkać*, Cz *svrčeti*, Sn *svŕčati* – cf. Li *švìrkštu* 'whistle'.

Cf. also R dial *šírxat'* 'stagger', U *šyšýrxnuty* 'rustle'.

u: R dial *púrxnut'* 'take wing', U *púrxaty*, P *purchawka* 'puffball' vs. regular forms in R *porxát'* 'flutter', P *pierzchać*, Sk *prchat'*, Cz *prchati* 'flee', Sn *pŕhati* 'flit' – cf. Li *spùrdzu* 'flutter';

also with metathesis: P *mrugać* 'blink' vs. regular forms in R *morgát'*, Br *mórhac'*, U *morhúty* – cf. Le *mùrgi* 'delirium, nightmare'.

Cf. also P *kurcz* 'cramp', *gurbić* 'rumple', *burczeć* 'grumble', *szturchać* 'push', *mruczeć* 'grumble'; R *prikurnút'* 'nestle down', etc.

y: R *pýrskat'* 'burst, spurt', Br *pýrskac'*, U *pýrskaty* vs. regular forms in R dial, Br *pórskac'*, U *pórskaty*, P *párskać*, LS *parskaś*, US *porskać*, Sk *prskat'* 'sprinkle', Cz *prskati*, Sn, SC *pŕskati* – cf. Li *puřkšti* 'snort', Le *pùrskât*.

Cf. also R dial *kýrknut'* 'speak hoarsely, peep', *kopýrza* 'cantankerous person'; U *kyrpátyj* 'snub-nosed', *styrčáty* 'jut out', *mýrkaty* 'mumble', *kopyrsátysja* 'rummage'; P *wyrczeć* 'growl', *chyrczeć* 'wheeze', *myrdać* 'wag', *tyrczeć* 'stick out'; LS *šwyrcaś* 'hum, buzz', etc.

a: R *gárkat'* 'shout', Br *harkac'*, U *hárkaty* vs. regular forms in LS *gjarcyś*, Cz *hrkati*.

Cf. also R *šárkat'* 'shuffle', *xárkat'* 'expectorate', etc.

Deviant forms of these types are numerous enough not to be discarded as occasional distortions. It may be presumed that they are due either to simple suspen-

sion of further developments (*u* and *i*-forms) or the same in combination with secondary lengthenings of an earlier date (*y*-forms from *u*-forms; *a*-forms from *o*-forms; in the case of *i* the arrested *ĭ*-forms and the lengthened *i*-forms are virtually undistinguishable). Both the cessation of short-vowel and the secondary lengthening were caused by affective factors. Even now the affective character of most of these forms is self-evident.

13. Remark on word-initial groups of sonant + *ŭ* or *ĭ* + consonant. In the preceding sections the groups sonant + *ŭ*/*ĭ* + consonant were examined in a position after a consonant (CS*u*C, CS*i*C types). They could occur without the preceding consonant as well, i.e. with an initial sonant (S*u*C, S*i*C). The vowels *ŭ* and *ĭ* after initial sonants *r* and *l* before a consonant became *jers* and, if in a weak position, were lost the same as regular *jers* in all Sl languages except SSl, where they were usually treated as strong *jers*, especially in disyllabic words. After the loss of *jers* the now preconsonantal sonants did not become syllabic even in those languages which otherwise had syllabic sonants (Sk and Cz). In Br and U, and in some R dialects they acquired a preceding (prothetic) vowel, which varies according to dialect. Usually it is *i*- or *o*- (in dialects with *akan'e*, *a*-). The geography of the distribution of these vowels has not been sufficiently studied so far, but apparently *i*- characterizes U and SBr while *o*- (*a*-) is more typical of NEBr (Cf. maps 26, 27 in *Dyjalektalahičny atlas belaruskaj movy*, Minsk, 1963). In Sk usually a vowel is inserted after the resonant, e.g. *lyžica* 'spoon', *lištať sa* 'glitter', *lehota* 'term', and less frequently precedes it: *ortuť* 'mercury'.

Examples: OCS *lъža* 'lie': U arch *olžá*; P *łży* (gen sg), Sk, Cz *lži* ([lži], not +[l̥ži]), but Sk *luhať* 'tell lies'; Sn *lažî*, SC *làži*, M *laže* 'tell lies', Bg *ləža*;

OCS *lьněnъ* 'flaxen, linen': Br *il'njaný*; P *lniany*, Cz *lněný* [ln'énī]; Sn *lanû* 'flax' (gen sg), SC *làna*. Bg *lénen* 'flaxen';

OCS *rъžda* 'rust': Br, U *iržá*; P *rdza*, LS *rza*, US (*ze*)*rz*, Sk (*h*)*rdza*, OCz *rzě*, Sn *rjà*; Bg *rəždá*. SC has *r̥* as an exception: *r̀đa* (The word is widely used in SC with the affective, figurative connotation 'rascal').

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31. PRINCIPAL DEVELOPMENTS IN PALATALIZATION OF CONSONANTS

1. Summary of CS developments in palatalization of consonants. 2. Classification of the Slavic languages in regard to the overall palatalization of consonants before front vowels. 3. The Northern group. 4. The Southwestern group. 5. Languages with discontinued palatalization. 6. Chronology of phonemic palatalization and overall palatalization of consonants before front vowels in Northern, Central and Southeastern Slavic. 7. Summary. Conditions and effects.

1. As a result of alterations in the clusters consonant + *j* and the first palatalization of velars several palatalized consonants were ushered into the inventory of CS consonants: *š*', *ž*', *č*', *ć*, *ʒ́*, *l*', *n*', *r*'. Phonemically, however, palatalization in the first five was a redundant feature well motivated historically but irrelevant synchronically, for these consonants had no non-palatalized counterparts. In the opposition, say, *s* : *š*' or *t* : *ć* it was hushingness vs. non-hushingness (laminal vs. alveolar or, in still another terminology, compact vs. diffuse) which counted. The non-palatalized character of *s* or *t* vs. the palatalized character of *š*' or *ć* was an extra distinction which, from the point of view of language economy, could have been dispensed with. Only *l*', *n*', *r*' differed from their non-palatalized varieties by palatalization alone and, consequently, it was only here that a phonemic opposition in palatalization arose, the first of this sort in CS:

l : *l*'   *n* : *n*'   *r* : *r*'

(See 14,7). It was limited to resonants, i.e. to those consonants which had no opposition in voicing.

The monophthongization of *eu* into *ju* did not change the situation because this *j* caused the same alterations in preceding consonants as the old *j* (See 19,4). The second and third palatalizations of velars as well as the further developments of *ć*, *ʒ́* (< *tj*, *dj*) slightly increased the number of consonants with opposition in palatalization in those Sl dialects in which *x* changed into *s*' (not *š*') and those in which *ʒ*' from *g* soon changed into *z*'. The first includes E and SSl, the second all languages except P and Pb (See 21,1). Thus the set of consonants with phonemic opposition in palatalization became threefold:

(1) three-opposition dialects: *l* : *l*', *n* : *n*', *r* : *r*' – P, Pb;
(2) four-opposition dialects: *l* : *l*', *n* : *n*', *r* : *r*', *z* : (*z*') – So, Sk, Cz;
(3) five-opposition dialects: *l* : *l*', *n* : *n*', *r* : *r*', *s* : *s*', *z* : (*z*') – R, Br, U, Sn, SC, M, Bg.

For the first time the opposition in palatalization spread to consonants which

were also characterized by opposition in voicing; e.g. *lĭz'ₒā (R *ne-l'zjá* 'impossible') vs. *līzₒātī (R *lizát'* 'lick'). It also spread for the first time to the position before *ě*: *rosě* 'dew' vs. *mus'ě* 'fly' (both dat sg). It may be assumed however that this palatalization of *s* and *z* was soon lost in many Sl dialects. OCS forms of the type *razmyšljenie* 'meditation' imply that there was no longer any *s'*, in the language; otherwise *š* [š'] would not substitute for the palatalized *s*.

It is often asserted that in CS (or in late CS) all consonants were palatalized before front vowels (ₑa > e, ₑā > ě, ī, and ĭ > ь). There can hardly be any doubt that both articulatorily and acoustically the consonants before front vowels must have differed from the consonants before non-front vowels. This is true in virtually all languages, even those which have no opposition of palatalization vs. non-palatalization. In English /k/ in *keen* is not identical with that in *could*. But this difference does not imply a full-fledged palatalization, and there is no proof that CS ever had an overall palatalization of consonants before front vowels. In fact, in those consonants which opposed palatalized to non-palatalized quality, whether their number was three, four, or five, this opposition operated before both nonfront and front vowels, e.g. OCS *konji* 'horses' vs. *oni* 'those' (masc nom pl), *kъnęzь* 'prince' (with [z'][1] vs. *blizь* 'near', OR *vol'ě* 'will' (gen sg) vs. *silě* 'strength' (dat sg), etc. This fact alone suffices to refute the possibility of an overall palatalization before front vowels.

2. Classification of the Slavic languages in regard to the overall palatalization of consonants before front vowels. Overall palatalization of consonants before front vowels was not a CS phenomenon, although it would have been in perfect agreement with the CS tendency toward intrasyllabic harmony, which brought about several consecutive palatalizations of velars before front vowels and delabializations of vowels after palatalized consonants. As in some other cases, the implementation of this CS tendency belongs to the histories of individual Sl languages after the disintegration of CS. Once more one is dealing here with post-CS CS developments.

Two groups of Sl languages stand out clearly in this respect: one which fulfilled its CS legacy and carried out an all-round palatalization of consonants before front vowels and another which abandoned the tendency and preserved the situation as inherited from CS without any immediate major changes. The first group was essentially of NSl: R, Br, P, LS, US and, in addition, the eastern dialects of Bg. The other, faithful to the status but not to the tendencies of CS, was the SW group: Sn, SC and, probably, M. It is possible that language contacts and substrata played a certain part in this distinction: the peoples of the SW group found themselves among, and even coterritorial with, the Gr and Rom nations, whose languages knew hardly any palatalization of consonants in their phonetic and phonemic systems, whereas many of the Sl tribes of the north were in contact with Balt and/or Tu speaking peoples and tribes. In the Balt area at least the proto-Li tribes had an opposition of

[1] Insofar as the change ʒ' > z' antedated its hardening.

palatalization in their consonants; the Tu speaking peoples applied the principle of intrasyllabic harmony. Of course the influence of these contacts is a matter of conjectures and could hardly be proved. In any event it was not a source of contamination as it could only have reinforced the tendency already present in Sl.

The situation in the languages and dialects not included in the N or SW groups is less consistent. In U, Pb, Sk, Cz and Bg (except the eastern dialects) the palatalization of consonants before all or some front vowels was carried out for a while, only to be suspended within a period of from one to about five centuries. The development towards palatalization was reversed. No doubt these reversals were completely independent in each of the languages, and yet there remains a striking similarity in the general directions of the alterations: first, fulfilment of the CS legacy, then reversal of the whole trend toward the opposite tendency. Again, one may be tempted to seek external contributing factors. On the outskirts of the Sl area are Pb and Cz, on the one hand, exposed to German; and on the other, Bg. subjected to Rom, Gr and, last but not least, Serbian influences. The situation in U and Sk is different, however. And if external factors did play an important part in the reversal of the palatalizational trend in no case were they decisive, except possibly in Pb (See sections 5 and 7).

The abandonment of palatalization in these languages (they may be labeled the NWCe group, Bg being set apart) came, as mentioned, after they had implemented the palatalization of consonants before front vowels along the same lines as the languages of the Northern group. Therefore for the period soon after the disintegration of CS one may speak in fact of two groups: SW, non-palatalizing, vs. NE-Ce, with palatalization. In the presentation to follow, however, the languages of the NWCe group will be treated separately. This is more convenient because they furnish the student with different kinds of evidence: in the languages of the Northern group the palatalization is still at hand, whereas in the languages of the NWCe group the original palatalization must be unearthed or reconstructed through layers of later reversals and alterations.

3. The Northern group. In the languages of this group the original overall palatalization of consonants before front vowels is still the part of the pattern of each language, although with some important modifications or complications which vary from one language to another.

In R almost all consonants occur in both a palatalized and a non-palatalized variety: labials, dentals and even velars; palatals and *c*, which were always palatalized in CS, still do not participate in this opposition. Phonetically they are either "hard" only (*š*, *ž*, *c*) or "soft" only (*č*, *j*), but neither condition has any bearing on phonemics. Except before *e*, where all paired (in terms of palatalization) consonants are palatalized, the labials and the dentals do not neutralize their opposition in palatalization in any position[2]. Speaking histor-

[2] With the exception of some consonantal clusters in which certain consonants hardened, e. g. *dnja*, gen sg of *den'* 'day' < *dьn(ja)*. This occurs in the other languages of the group as well.

ically, they are palatalized before the reflexes of all front vowels of late CS: *i*, *ь*, *e*, *ě*, *ę*, represented now as *i*, *e* or #, *e* (: *o*), *e*, and *a* respectively, e.g. *pir* 'feast' [p'ir], *pen'*, 'stump' [p'en'] < *рьнь*, *step'* 'steppe' [st'ep'], *péna* 'foam' [p'éna] < *pěna*, *pet'* 'sing' [p'et'] < *pěti*, *pjat'* 'five' [p'at'] < *pętь*. The velars are palatalized before *i*, *e* of whatever origin but never in final position: *kíslyj* 'sour' [k'ísləj], *pakét* 'package' [pak'ét]. The opposition in palatalization is never complicated by any important additional qualitative changes, so that the pairs are simply *b* : *b'*, *p* : *p'*, *v* : *v'*, *f* : *f'*, *m* : *m'*, *d* : *d'*, *t* : *t'*, *s* : *s'*, *z* : *z'*, *l* : *l'*, *n* : *n'*, *r* : *r'*, *k* : *k'*, *g* : *g'*, *x* : *x'* (straight or simple palatalization).

The Br pattern is similar but is complicated by two changes: labials lost their palatalization in final position (*hlyb* 'depth', *sem* 'seven'); and palatalized *t'*, *d'* changed into *c'*, *ʒ'* respectively, so that in this case the opposition in palatalization is accompanied by an opposition in affricatization (*cen'* 'shadow' [c'en'], *dzjádz'ka* 'uncle' (ʒ'ác'ka]). The phonemic status of *c'*, *ʒ'* is somewhat contradictory: articulatorily they are in correlation with *c*, *ʒ*; morphophonemically with *t*, *d*, e.g. *césta* 'dough' : *w césce*, loc sg [c'és'c'e], *seradá* 'Wednesday': *seradzé*, dat sg. Here palatalization became alternational or functional. Withal, *r* dispalatalized in all positions in Br, thus joining the series of consonants which do not participate in palatalizational oppositions: *š*, *ž*, *č*, *c* (all "hard" in Br).

In P, after *ə* yielded *e* (See 29,2) and *e* arose from certain vowel contractions (See 32,8), hard consonants were reintroduced in the position before *e*, e.g. in Mo P *sen* 'sleep' vs. *sień* 'lobby' [sen : śeń], *ranne* 'early', neut, vs. *ranie* 'wound', dat sg [ráne : ráńe]. Thus, palatalization before *e* is phonemically relevant, and not automatic as in R and Br. The most striking peculiarity of palatalization in P is that P has virtually lost the straight (simple) palatalization of consonants, except for *n* and to a limited degree *k*, *g* (*sen* – *sień*, *kędy* 'where' – *kiedy* 'when' [kéndy–k'édy]). In the case of labials straight palatalization is eliminated before a consonant and word finally; prevocalically it is optional, and instead of a palatalized labial a labial followed by *j* may occur: *miara* 'measure' may be realized as [m'ára] but more often as [m'jára] and even [mjára][3]. In all other cases straight palatalization is replaced by functional palatalization, *d* being functionally palatalized into *ʒ́*, *t* into *ć*, *z* into *ź*, *s* into *ś*, which phonetically are rather palatalized variants of *ǯ*, *č*, *ž*, *š* respectively and not of *d*, *t*, *z*, *s*; *r* instead of being palatalized alternates with *ž* (spelled *rz*: *pora* 'time' : *porze*, dat sg); the counterpart of (optionally) palatalized *l* [l'] is not "hard" *l* but [w] (spelled *ł*). Because full-fledged straight palatalization occurs only in *n* : *ń*, in all other consonants even the historical palatalization is about to cease functioning as such and more and more is being transformed into a number of alternations of disparate consonants. Although phonetically palatalization is still widely represented, functionally it is on the verge of disappearing from P. This stage has been attained, paradoxically enough, by driving palatalization to its extreme. The extreme development of phonetic palatalization in P is the

[3] The presence or lack of palatalization before *j* is irrelevant because *j* alone is a sufficient indication of the functional palatalization.

continuation of the CS tendency, and the abandonment of phonemic palatalization brings P closer to the non-Sl languages west and north of Poland. The chronology of the phonetic changes which furthered phonetic palatalization and at the same time undermined its phonemic relevance is as follows: *t'*, *d'* > *ć*, *ʒ́* in the twelfth century, *r* > *ř* in the twelfth, *ř* > *ž* in the sixteenth: the chronology of *s'*, *z'* > *ś*, *ź* and the rise of *j* after labials is indefinite, but nothing precludes placing it at about the same time; finally, *ł* > [w] was completed by the sixteenth century. Thus, in P of the sixteenth century the system of phonemic palatalization was virtually destroyed. The consonants *š*, *ž*, *č*, *c* and basically also *x* did not and still do not participate in any palatalizational oppositions.

LS, in addition to *š*, *ž* and *c*, dispalatalized also *s* and *z*: *seń* 'shadow', *zemja* 'earth'. Like P, LS also progressed toward alternational palatalization: *ś* is substituted for *t'*, *ź* for *d'*: *swět* 'world' : *na swěśe*, loc sg; *młody* 'young' : *młoźina* 'youth'. Dialectally *ł* changed into [w]. But in labials, *n*, *r*, *k*, *g*, and *l* (insofar as it did not change into [w]) the opposition in palatalization is still alive. As in P, the palatalization before *e* is not automatic: *mech* 'moss' vs. *mjeńšy* 'smaller'; *ned* 'immediately' vs. *njebjo* 'sky'.

The US system is close to that of LS but not identical. Neither *š*, *ž*, *č*, *c* nor *s*, *z*, can be palatalized: *sedem* 'seven', *zemja* 'earth'. Alternational palatalization (into *ć*, *ʒ́*, *l*) is the only possibility for *t*, *d*, *ł* [w]: *swět* 'world' : *swěće*, loc sg, *młody* 'young' : *młodźina* 'youth', *doł* 'valley' [dow] : *w dole*, loc sg. Straight palatalization occurs in labials and velars and in *n* and *r*. It is virtually automatic before *i*, *ě* [iₑ] as long as native words are involved and, in the case of velars, it is practically limited to this position.

EBg dialects have no contiguity with the languages of the palatalizing (Northern) group. But historically they bordered upon U and Sk and these two, before the reverse trend began, were to a certain extent (See section 5) palatalizing languages. Nowadays palatalization of consonants is particularly well preserved in SEBg where it is automatic in all consonants before front vowels and reflexes of *ě*, e.g. *t'én'k'i* 'thin', *ž'él't'i* 'yellow', *b'æl'i* 'white'. Dentals and labials are also palatalized in final position if the word originally ended in *ь*: *kon'* 'horse', *sol'* 'salt', *pǝt'* 'road', *krǝf'* 'blood'. SEBg palatalization in its scope and in its straight character is close to R, although phonetically it is said to be less strong. The hushing consonants *š*, *ž*, *č* do not participate in the palatalizational oppositions but, unlike the situation in R, *š* and *ž* occur in a palatalized version.

Within the N group two clear-cut subtypes are represented by R and SEBg on the one hand, P on the other. In the first subtype phonetic and phonemic palatalization essentially coincide: in the second subtype phonetic palatalization is strong but phonemically is reduced to a minimum. Br, LS and US vacillate between the two subtypes, Br being closer to R, LS and US to P.

A typical feature of the palatalization in the N group is that CS palatalized *l'*, *n'*, *r'* are no longer identifiable. They coalesced with *l'*, *n'* and *r'* of a later date. This feature is reflected in the oldest records of these languages: Sa for

SEBg (while NEBg Su still distinguished *l'* and *n'*), the old texts of Novgorod and Pskov for R.

4. The Southwestern group. This group consists of Sn, SC and probably M. As none of these languages has any trace of an overall palatalization of consonants before front vowels, it is to be assumed that palatalization never developed here. On the contrary, the CS palatalization of *l'*, *n'*, *r'* is still either preserved in these languages or recoverable. This is decisive proof that it was the only palatalization known in these languages; otherwise *l'*, *n'*, *r'* of CS origin would have been confused with more recently palatalized *l*, *n*, *r*, as is typical of the N group.

This applies without qualification to Sn and SC. Sn preserves traces of palatalization in all three sonants although palatalization as such has been or is being eliminated (See 14,2). SC lost the palatalization of *r'* but still preserves it in *l'* and *n'*, as also shown in 14,2. In M the traces of *l'* and *n'* are preserved in isolated words only: *konj* 'horse', *ljubi* 'kiss' but *pole* 'field', *nivni* 'their', *luǵe* 'people', *kluč* 'key'. Therefore the membership of M in the SW group is not established beyond doubt. But it is highly plausible because insofar as *l'*, *n'* occur they do so in place of CS *l'* and *n'* without any appreciable overlapping.

In all three languages there are also new *l'* and *n'* (or their reflexes) which arose from *l* and *n* followed by *j*, the groups which appeared after the loss of *ь*, e.g. Sn *kâmenje* 'stones', SC *kàmēnje*, M *kamenje*. These forms do not interfere with those inherited from CS. SC even went so far as to develop new *ć* and *đ* [č', ǯ'] from *tьj*, *dьj*, e.g. *prûće* 'rods', *grôžđe* 'grapes', thus creating an opposition *č* : *č'*, *ǯ* : *ǯ'*. M has *ḱ*, *ǵ* between vowels: *braḱa* 'brothers', *laǵa* 'boat'.

5. Languages with discontinued palatalization. The original overall palatalization of consonants before front vowels or at least some of them in Pb, Sk, Cz, Bg, and U is confirmed by the following phenomena in these languages:

Pb: consonants in the records of Pb are palatalized before reflexes of *ь*, *ě* and *ę* if these reflexes are labialized, e.g. *p'ås* (pyâs) 'dog' < *pьsъ*, *m'oró* (mioró) 'measure' < *měra*, *div'ǫ̇tə* (diwyûnte) 'ninth' < *devętъjь*.

Cz: traces of palatalization of *r* are preserved before the reflexes of *ь*, *i*, *e*, *ě* and *ę*, e.g. (OCz *r'* is represented in Mo Cz as *ř*) *tak řka* 'so to speak' < *rьk-*, *Řím* 'Rome' < *Rimъ*, *řečený* 'mentioned' < *rečen-*, *řeka* 'river' < *rěka*, *řád* 'order' < *rędъ*. The dentals *t*, *d*, *n* are also palatalized before reflexes of *i*, *ě* and *ę* insofar as the latter coalesced with *ě*, e.g. *div* 'wonder' [d'if], *děti* 'children', *chodí* 'walk', 3 pl [xód'ī] < *xodę(tə)*. A trace of palatalized *t* is found in its confusion with *c* in some OCz manuscripts. Hence Mo Cz has *František* 'Francis', *Břetislav*, personal names, with hypercorrect *t* instead of the expected *c* (Cf. P *Franciszek*, R *brjacát* 'clang'). Whether consonants other than *r* were palatalized before the original *e* is doubtful. Cz *umlaut* (*přehláska*) of the type *Jan* 'John' but *Jene*, voc sg < *Jane* could have depended on the following front vowel. Phonetically, palatalization in MO Cz is dorsal, not alveolar.

Sk: dental stops, *n*, and *l* are normally palatalized before the reflexes of *ь*,

i, *e*, *ě* and *ę*, e.g. *deń* 'day' [d'en'], *div* 'miracle' [d'iw], *devät'* 'nine' [d'évæt'], *deti* 'children' [d'ét'i], *d'asno* 'gum', from *dьnь*, *divъ*, *devętь*, *děti*, *dęsn-*.

Bg: traces of palatalization of dentals before *ь* are found in final position provided a postpositive article is added, e.g. *pət* vs. *pə́tjat* 'road', *učítel* vs. *učítel-jat* 'teacher'; all consonants are palatalized before *a* when the reflex of *ě*, e.g. *mjára* 'measure' < *měra*.

U: dentals are normally palatalized before # < *ь*, e.g. *den'* 'day', *dév'jat'* 'nine'; all consonants are palatalized before *i* from *ě*, e.g. *díty* 'children' [d'íty] and before *a* from *ę*, e.g. *xódjat'* 'go', 3 pl. There are also traces of an original palatalization of consonants before *e* but this is limited to N and EU. See below.

In general, these five languages dispalatalized their consonants before front vowels, where palatalization was automatic or mostly so (this reservation applies to Cz. See below, under b), i.e. devoid of phonemic function; but they preserved the palatalization before nonfront vowels, where it bore a functional load. The range, procedure and time of these dispalatalizations were not necessarily the same for every language. Therefore they will be examined in a broad outline separately (the details belong to the particular histories).

a) Pb has dispalatalized all consonants before all front vowels as well as in final and preconsonantal positions. Only those front vowels which by that time had acquired a labialized articulation retained palatalization of the preceding consonants. Examples of dispalatalization are:

before *ь*: *dan* (dân) 'day' (*dьnь*)
before *i*: *sonái̯* (ssoney) 'sledge' (*sani*)
before *e*: *perü̆* (perü) 'feather' (*pero*)
before *ě*: *pésən* (pêssen) 'song' (*pěsnь*)
before *ę*: *zą̣t* (ssankt) 'son-in-law' (*zętь*).

It is impossible to establish the chronology of these dispalatalizations due to the lack of any record of Pb before the late seventeenth century. But it is more plausible to assume that they occurred before front vowels as such, i.e. prior to the changes *ə* (from *ь*) > *a*, *i* > *ai*, *ę* > *ą̣*. This would presuppose a rather early date.

Pb palatalized velars in many positions (e.g., *vau̯x́ü̆*, spelled wauchgí, 'ear') but this is a later development.

b) Cz was the only language in the group in which palatalization undoubtedly had phonemic value in at least one position before front vowels, vis. before the reflex of *ĭ* and *ŭ* (in Pb there was at best only a partial overlapping of the two reflexes). In Cz *ĭ* and *ŭ* coalesced in *ə* (to become *e*) so that their reflexes were distinguished solely by the palatalization of the preceding consonant in the case of *ĭ*, or non-palatalization in the case of *ŭ*. Cf. Mo Cz *ret* : *rtu* 'lip' vs. *řka*, as cited above. However, the functional load of this opposition was low and the resistence to merger could not have been strong, as shown by the history of those Sl languages in which the reflexes of *ĭ* and *ŭ* coalesced completely.

The dispalatalization, to judge by the records of Medieval Cz, began with labials in all positions, not only before front vowels as in *méně* but also before

non-front vowels as in *vázati* 'bind', *pátý* 'fifth', *maso* 'meat' (< *vęzati*, *pętъ*, *męso*); before *ě*, either original or from *ę*, *j* appears between the labial and the vowel, an indication that *ě* in OCz was a diphthong of the *ie*-type: *pěna* 'foam', *pět* 'five' [pjéna, pjet] < *pěna*, *pętъ*. Then hushing consonants, including *ř*, as well as *c*, *s* and *z* dispalatalized in all positions; the later date of this dispalatalization is perhaps shown by the absence of *j* before the reflexes of *ě*, e.g. *celý* 'entire', *seno* 'hay'. Finally, by or in the early fourteenth century the dentals *t*, *d*, *n* dispalatalized before *e* which had arisen from *ь*. This dispalatalization also spread to the final position, cf. *den* 'day', *kost* 'bone', but not to the positions before *i* and *ě*, cf. *divný* [d'ívnī] 'strange', *dělati* 'make'. In final position, however, many words retained or restored palatalization under the influence of the oblique cases with *-i* or non-front vowels, e.g. *kůň* 'horse', *zeď* 'wall', *loď* 'boat', but not in consonantal clusters. Thus, palatalization in Cz during and after the fifteenth century is limited to *t*, *d*, *n* and is restricted to three positions: before *i*, *e* < *ě*, and, limitedly, in word and syllable final position. Its phonemic function before *i* and *e* is evident.

c) Sk. The general line of development in Sk is reminiscent of Cz. The main similarity is that it consisted in total dispalatalization of certain types of consonants: labials; the dental spirants *s* and *z*, with the affricate *c* and the resonant *r*; and hushing consonants[4]. Although Sk did not have the obstacle that Cz had to contend with – Sk did not have the phonemic distinction of palatalized vs. non-palatalized consonants before *e* (or ə) because the reflexes of *ĭ* and *ŭ* did not coalesce, – still its development toward dispalatalization was slower. The indications of OSk records are uncertain, but the retardation is seen from the fact that *ě* after labials did not leave *j* as a trace of its earlier diphthongal character, cf. Sk *pena*, *päť* vs. Cz *pěna*, *pět*. Furthermore, Sk never dispalatalized *t*, *d*, *n* (and *l*) before *e* or in final position, as did Cz in its last stage of dispalatalization, cf. Sk *deň* [d'en'], *kosť*, *desať* [d'ésat'].

d) Bg (except EBg – see section 3) was most consistent in eliminating palatalization in all consonants before the front vowels *ь*, *i* and *ě*, and in final position (As for *e* and *ę*, there are no indications that they ever palatalized preceding consonants[5]). The double reflexes of *ě*, *e* and *a*, reveal this strikingly. In the same morpheme a consonant is non-palatalized before *e* but palatalized before *a*, both from *ě*, e.g. *deljá* 'divide' vs. *djal* 'part', *pénest* 'foamy' vs. *pjána* 'foam'. In word-final position this double treatment is visible in such oppositions as *kon* 'horse' vs. *kónjat* [kón'ət] 'the horse'. The elimination of palatalization before front vowels was the elimination of phonemically irrelevant palatalization. The preservation of palatalization before non-front vowels was the preservation of phonemically relevant palatalization. However, the dispalataliza-

[4] Consequently Sk makes no distinction at all between original *r* and *r'*, cf. *rád* 'order' < *rędъ*, presumably with earlier *r'*, and *rád* 'glad' < *radъ*, with original *r*.

[5] To be sure, there are no direct indications as to *i*, either. But if *ь* and *ě* palatalized the preceding consonants, it is logical to assume that *i*, a higher vowel, did, too.

tion of consonants before *i* entailed the coalescence of *i* and *y*, a change which deeply affected the phonemic pattern of the language.

e) For U one has to assume two non-identical points of departure. SW U, like Bg, palatalized consonants before *ь*, *i* and *ě*, and also before *ę*, but hardly so before *e*. NE U palatalized consonants before all front vowels (Cf. WU *len* vs. NE and standard *l'on* 'flax'). The first dispalatalizational moves of U were, again, similar to Bg: all consonants were dispalatalized before the front vowels *e* (< *e*, *ь*) and then *i*. The reflex of *ę* did not participate, because by that time it was *a* (*pjat'* 'five'). Nor were dentals in word-final position affected. No dispalatalizations occurred before *ě*, the latter obviously being then a diphthong (type *ie*). Hence *den'*, *désjat'* [den', dés'at'], *divnyj* to become *dývnyj*, but **piena* to become *pína* [p'ina]. Chronologically these changes fall into the thirteenth century. As in Bg, coalescence of *i* and *y* ensued from the dispalatalization of consonants before *i*.

However, U did not dwell on this "Bg" stage of its development. Very soon, in the middle of the fourteenth century, *ě* (= *ie*) changed into *i* in the SW dialects. The consonants before this new *i* remained palatalized and the opposition *i* vs. *y* was restored on the new basis. Typologically, in regard to palatalization of consonants, U joined Br and R, albeit on a quite different basis, its *y* coming from both *i* and *y*, and its *i* from *ě* and *ę* (later also *ǫ*).

The examination of the main dispalatalizational processes in the five languages which went through these developments shows one common feature: palatalization was better preserved before non-front than before front vowels, i.e. in the positions in which its functional load was heavier. Within this common framework one may distinguish two basic types: an overall elimination of palatalization in all the consonants before all front vowels (Bg) or before all front vowels except diphthongs (U) or before all nonlabialized vowels (Pb); or else a gradual elimination of palatalization in certain types of consonants, one after another, independently of what followed (Sk). Cz basically followed this trend, too, but when only its dentals still admitted palatalization it applied the first principle, although to *e* alone. In the first type the dispalatalization is motivated by the following vowel; it is bound. In the second type it originates in consonants alone, independently of the vowels to follow. It is unbound or free.

It is easy to see that the unbound dispalatalization brought the Sl languages involved closer to the adjacent and partly coterritorial non-Sl languages; German and Hungarian. It is particularly striking that in Sk these frontal dispalatalizations stopped short of the elimination of the last four consonants still admitted in a palatalized version: *t'*, *d'*, *n'*, *l'*. These four palatalized consonants are precisely those used in MHung (in Mo Hung *l'* > *j*). On the other hand, the bound dispalatalization before front vowels, independently of what consonant was involved, seems to have been motivated by internal Sl developments alone: it constituted the elimination of an articulatory complication which was not justified phonemically. This may be corroborated by the existence of fairly numerous R dialects which dispalatalized consonants before *e*,

although, surrounded by other R dialects, they certainly were not exposed to any strong external influences[6]. Of course, this tendency could spread freely only after the CS trend toward intrasyllabic harmony had ceased to operate.

6. Chronology of phonemic palatalization and overall palatalization of consonants before front vowels in Northern, Central and Southeastern Slavic. If later dispalatalizations are disregarded it becomes clear that originally the palatalization of consonants before front vowels affected all of Sl except Sn, SC, and probably M. It is also likely that in this large area it was the rule before ь, *i* and *ě*. As shown in section 5, there is no unambiguous evidence of palatalization before *e* and *ę* in WBg or before *e* in Cz and SW U. Except for a few hints of another nature, valid for limited areas (See below), the chronology of these palatalizations may be established only in relation to other sound changes.

It is clear that by the time of the loss of weak *jers* there was already palatalization of consonants before ь, and if palatalization did not have phonemic value previously it had to acquire it with the loss of weak *jers*. If, say, in OR *lěnь* 'laziness' *n* was palatalized automatically before ь but not palatalized before ъ in, say, *lьnъ* 'flax', with the loss of final ь and ъ the whole burden of distinction was transferred to *n* and the phonetic distinction [n] vs. [n'] was to become a full-fledged phonemic opposition /n/ vs. /n'/. This applies to those languages which distinguished the two *jers*: R, Br, U, Sk and parts of Bg, i.e. what may be called the Eastern group. In languages where the *jers* merged into ə, the Western group (P, Pb, So, Cz and the rest of Bg), palatalization should have obtained phonemic status even before the loss of the *jers*. While in the Eastern languages the positions of maximum distinction were word-final and preconsonantal, in the Western ones it was originally the position before ə, a vowel.

In either case the phonemic palatalization was there at the time of the loss of weak *jers*. As shown in 29,10, this was the tenth century for Bg and possibly Sk, for Polish the eleventh, for U the mid-twelfth and for R the mid-thirteenth[7]. These are the latest dates for the rise of phonemic palatalization of consonants other than *l*, *n* and *r*, but it is advisable to consider whether the phonemic palatalization can be traced farther back in time. It could have been tied in with certain other changes in vowels that occurred at a somewhat earlier time. These changes include mainly the split of *ₑa* into *e* and *o* in R, Br, U, P and So (See 28,3), the split of *ₑā* into *e* and *a* in P, Pb and Bg (See 11,3), and the

[6] In the provinces of Vologda, Vladimir, Leningrad, Moscow, Rjazan', Tula, Kaluga, Voronež, Vjatka. See detailed geography in *UZISl*, 13, p. 166ff and map No. 60 in *Atlas russkix narodnyx govorov central'nyx oblastej k vostoku ot Moskvy* (M, 1957). The map gives a good idea of the scattered appearance of the feature and, hence, its spontaneous rise in many places.

[7] For Bg this chronology is indirectly confirmed by parallel developments in Rm. Rm also lost its final *ŭ* and *ĭ* by the eleventh century. The loss of *ĭ* is still identifiable by the palatalization of the preceding consonant, e. g. *lup* 'wolfe' (< *lupu(m)*) vs. *lupi* [lup'], pl; *an* 'year' (< *annu(m)*) vs. *ani* [an'] pl.

denasalization of *ę* into *'a* or *ä* (R, Br, U, So, Sk, Cz) or its change in certain positions into *ą* (P, Pb) (See 34,2).

For P and possibly So the split of ${}_{e}a$ into *e* and *o*, which took place in P in the tenth or early eleventh century, shows that at that time consonants must have been palatalized in this position. It also indicates that before *o* consonants distinguished palatalization phonemically: the root *lod-* 'ice' (now *lód*) differed from *lod-* 'boat' (now in, e.g., *łódka*) in the feature of palatalization vs. non-palatalization of *l*. This shifts the date of phonemic palatalization of consonants in these languages a little farther back since the rise of *o* from ${}_{e}a$ antedated the loss of *jers*.

For R and U unfortunately no direct evidence may be derived from this phenomenon. As shown in 28, 3-4, the prehistorical change of ${}_{e}a$ into *o* took place only after *š*, *ž*, *č* and *j*, which were palatal(ized) in CS from the very beginning, but whose palatalization was and remained extraphonemic. As to Br the chronology of ${}_{e}a > o$ is uncertain.

The split of ${}_{e}\bar{a}$ into *e* and *a* in P and early Pb (later Pb *o*) also involved the phonemic palatalization of consonants in the position before *a*. Cf. the roots *m'ar-* (now P *miara* 'measure') and *mar-* (now P *mara* 'spectre'). Yet the chronology of this change is not established: it certainly occurred not later than the split of ${}_{e}a$ but it is unknown whether it was earlier.

The denasalization of *ę* is particularly important for the chronology of the phonemic palatalization of consonants in ESl. It occurred in the tenth to early eleventh century, i.e. at least a century and a half sooner than the loss of *jers* (See 34,2). The reflex of *ę* is *a* with palatalization of the preceding consonant: *rędъ* > *rjadъ* 'row' as opposed to *radъ* 'glad'. This places the phonemic palatalization of consonants at the boundary of the tenth and eleventh century.

The objection was raised that *ę* did not change directly into *'a* but for a certain time existed as *'ä*. Vasil'ev tried to prove that this phonetic value was attached to the letter ѧ in OR manuscripts. This possibility cannot be completely rejected, but the vowel systems in the ESl dialects of the time would be much more coherent and logical without *ä*. Then, with *ě* set aside (inasmuch as it was a diphthong), the system was based on the opposition of unrounded vs. rounded, with *a* as the neutral point of the system:

i   *y*   *u*
ь   *ъ*
e   *o*
a

Introduction of *ä* into this system would be tantamount to recognizing labialization as a redundancy:

i *y* *u*
ь   *ъ*
e   *o*
ä   *a*,

a point of view not confirmed by the subsequent phonetic development of

these dialects. As is well known, rounding was preserved in all those vowels which were originally rounded, including even *ъ* and its reflexes. It is therefore more plausible to assume that if *ę* > *'ä* the latter was but a transitory stage in the development toward *'a* and phonemically was rather an allophone of /a/.

It is significant that the isogloss of *ę* > *e* basically coincides with the isogloss of non-palatalization of consonants before *e* and *i* (except EBg). Conversely, in no language which has or had palatalized consonants before *e* and *i* did *ę* change into *e*. All of them have some shifts of *ę* toward *'a*, as in R, Br and U, or to *'ą* as in P and Pb (before hard dentals), or possibly to *ä* as in So, Sk and Cz, cf. Sn *mesộ* 'meat', SC *mêso*, M *meso*, Bg *mesó* vs. R, U *mjáso*, Br *mjása*, OP (till the sixteenth century) **miąso* (now *mięso*), Pb *mąsǔ*, US *mjaso*, Sk *mäso*, Cz *maso*[8]. This implies that there was some connection between the alteration of *ę* toward *a* on the one hand and the phonemic palatalization of consonants and an overall palatalization of consonants before front vowels on the other, the latter being a prerequisite of the former.

As for P, Pb, So, Sk, and Cz, the relative chronology of the changes of *ę* and the loss of *jers* is hard to establish. There is no record of these languages in which one of the two processes was completed and the other one not. E.g. in the KFr both *ę* and *jers* are preserved intact, while in the Fragments of Prague, for Cz, the bull of about 1136 for P. etc.. both changes are accomplished. For P and Cz one may presume that both developments roughly concurred; information is lacking for Pb, So, and Sk. Consequently, it is only for R, Br and U that the analysis of the history of *ę* enables the student to establish hypothetically a more precise date for the beginning of phonemic palatalization of consonants. For those languages it may be shifted back to the tenth century.

Thus the latest time for the appearance of phonemic palatalization of consonants other than *l'*, *n'*, *r'* probably was the tenth century for R, Br and U as well as for Bg and possibly Sk, the tenth or early eleventh for Cz, and the early eleventh for P.

It is more difficult to establish when the overall palatalization of consonants before front vowels (i.e. extraphonemic palatalization) arose, except that one would expect it to have preceded the phonemic palatalization of consonants. Two minor facts cast some light on this phenomenon, at least in two Sl areas.

One is the presence of early Sl loan words in Hung which reveal no traces of palatalized consonants before front vowels. even in those consonants which were susceptible to palatalization in Hung, as *t, d, n*, e.g. *déd-apa* 'great-grandfather' from Sl *dědъ* 'grandfather', *dezsa* 'tun' from Sl *děža*, *néma* 'dumb' from Sl *němъ*, *retesz* 'bolt' from Sl *retęʒь*, *tömlöc* 'prison' from Sl *tьmьnica*, etc. This rendition may indicate that in the late ninth and early tenth century the Sl dialects of the Tisza and Danube region (being a transition between Sk, Sn, and Bg) did not have any phonetic palatalization of consonants before front vowels or at any rate none strong enough to be perceived.

[8] Bg denasalized its nasal vowels later than the Eastern group and certainly after the loss of *jers*, i. e. in a different phonetic and phonemic situation.

The other fact concerns OU. The Kievan texts of the early and mid-twelfth century fairly consistently use the forms *sjuda* ~ *sjudu* 'here', *otsjuda* ~ *otsjudu* 'hence' with *s'* (e.g. in the Life of St. Boris and Glěb, in Vladimir Monomach). This palatalization of *s* is a local innovation. It is retained in the Mo ESl languages: R *sjudá*, Br, U *sjudý*. OCS texts had *sǫdě* ~ *sǫdu*. In the word as such there are no conditions favoring the palatalization of *s*. The palatalization was transferred here from the word *sь*, *si*, *se* 'this' based on the same root. This indicates that in the Kiev area *s* before front vowels was palatalized. Moreover, as a certain time was needed for the spread of this palatalization from the pronoun to the adverb, it may be supposed that at least in the late eleventh century consonants were palatalized in this area before front vowels. This would confirm the assumption that the overall palatalization of consonants before front vowels occurred here prior to the loss of the *jers*.

One may attempt to draw certain conclusions concerning the chronology of the overall palatalization of consonants before front vowels in Sl from the presence of non-palatalized consonants in some reflexes of C*ĭr*C, C*ĭl*C groups in WSl. The important positions are, for *ĭr*, the position before hard dentals (P, LS *twardy* 'hard', ESk *tvardi*), and for *ĭl*, between a labial and a hard dental (P *pełny* 'full', LS *połny*, ESk *polni*) (See 30,5). The lack of palatalization in these consonants may best be explained by supposing that in these phonetic environments *ĭ* changed into *ə* sooner than in others and before the overall palatalization of consonants before *ĭ*:

(1) *tvĭrd-*	(2) *tvərd-*	(3) *tvərd-*	(4) *tvard-*
pĭln-	*pəln-*	*pəln-*	*peln-*
dĭnĭ 'day'	*dĭnĭ*	*d'ĭn'ĭ*	*d'ən'ə.*

If the change *ĭ* > *ə* in these environments is placed in the tenth century at the latest, it may serve as an indication that in the tenth century there was still no overall palatalization of consonants in the area.

For NP (Mazovia) and Ka these considerations are invalid, for in these dialects consonants are palatalized in C*ĭr*C, C*ĭl*C groups the same as before all other front vowels and their reflexes[9]. In this respect there was no special development here. The stages of the development may be reconstructed as follows:

(1) *tvĭrd-*	(2) *tv'ĭrd-*	(3) *tv'ərd-*	(4) *tv'ard-*	(5) *ćvardï*
pĭln-	*p'ĭln-*	*p'əln-*	*p'eln-*	*ṕωlnï*
dĭnĭ	*d'ĭn'ĭ*	*d'ən'ə*	*d'en'*	*ʒeń*[10].

No clues to the chronology of palatalization are supplied by the coalescence of C*ĭl*C and C*ŭl*C in ESl (with Ka and Pb), with no palatalization in the words which originally had *ĭ*: **vĭlk-* > **vŭlk-* > (R) *volk* 'wolfe' (Snc *vω*^{l}*k*, Pb *vǎṷckə*). As in these dialects consonants could not have been palatalized before *ŭ* at all, one has to assume that even if in **vĭlk-* *v* was [v'] it must have lost its palatali-

[9] Exceptional standard P forms with palatalization possibly came from the dialects of this area: *ziarno* 'grain', *dziarski* 'brisk'.

[10] Forms in this column are the attested Ka forms. In Ka *ć*, *ʒ́* > *c*, *ʒ* secondarily.

zation when labialization altered *ĭ* into *ŭ*. On the other hand, it is equally possible that the change *ĭ* > *ŭ* occurred prior to the palatalization of consonants before *ĭ*. But neither alternative is demonstrable and even if the second is accepted it cannot be referred to a specific time, except of course that the change occurred before the oldest extant OR texts were written, a rather vague chronological indication.

Of greater importance are two other facts: in the development of pleophony, as shown in 27, 10, C*e*lC groups changed into C*o*lC without palatalization of either the first consonant or *l*; and the change of *ₑa* into *o*, in its oldest stratum, occurred only after hushing consonants. Both facts imply that at the time of these changes there was as yet no overall palatalization of consonants before *e* (*ₑa*). This places that palatalization in ESl dialects some time after the ninth century.

OR texts have never been investigated thoroughly and exhaustively from the point of view of the extent to which they distinguish CS *l'*, *n'* and *r'* from *l*, *n*, *r* before front vowels. Such a distinction would show that there still was no overall palatalization of consonants before front vowels. With the present state of knowledge it seems that none makes this distinction consistently albeit there is variation in the degree to which it is or is not made. E.g., the Archangel Gospel of 1092, written in the Kiev area, seems to make this distinction more carefully than the Novgorod Mineae of 1095 – 97. Yet it is hard to know whether this is the result of greater accuracy on the part of the Kievan scribe(s) in copying the underlying text or whether it reflects local peculiarities of speech. Theoretically it is possible that there were some dialects which did not distinguish *l'*, *n'*, *r'* from *l*, *n*, *r* before front vowels, because in this position all consonants became palatalized; and others where the distinction was lost because *l'*, *n'*, *r'* became hard. If dialects with hard consonants before front vowels exist in R now, nothing precludes the possibility that they existed in, say, the eleventh century. As long as the manuscripts originating from one area are not studied exhaustively in their relation to the texts written elsewhere, the existence or non-existence of dialectal varieties in palatalization of consonants cannot be spotted and the student has to operate with an unspecified "ESl development".

In Mo R there is a curious phenomenon which is not justified by the present-day system of palatalization of consonants. Some subst ending in a palatalized consonant preserve this palatalization when taking a diminutive suffix, while others drop it, e.g.:

den' 'day' : *deněk* [*d'in'ók*]	vs. *kógot'* 'claw' : *kogotók*
pen' 'stub' : *peněk*	*lápot'* 'bastshoe' : *lapotók*
kon' 'horse' : *koněk*	*lókot'* 'elbow' : *lokotók*
xmel' 'intoxication' : *xmelěk*	*gvozd'* 'nail' : *gvozdók*
stébel' 'stalk' : *stebelěk*	*gólub'* 'pigeon' : *golubók*
xor' 'polecat' : *xorěk*	
písar' 'scribe' : *pisarěk*.	

Nowadays this distinction is made according to the type of consonant: the palatalization as a rule is represented in *l*, *n* and *r* but not in other consonants. The origin of this peculiar and synchronically unmotivated distribution is to be derived

from the period when *l*, *n*, *r* alone could be palatalized. At that time there was *kon'ь* : **kon'ьkъ* vs. *lokotь* : *lokotъkъ* and *pьnь* : **pьnъkъ*. When the distinction between *n*, *l*, *r* and *n'*, *l'* and *r'* before *ь* was lost, so that not only did *kon'ь* have *n'* but *pьnь* also became *p'ьn'ь*, the principle of the original distribution became obscured. The palatalization in diminutives began spreading beyond its original limits; it encompassed virtually all substantives in (newly palatalized) *l'*, *n'* and *r'*, but stopped short before those with other consonants where no precedent had been furnished by the older palatalization.

In this development Br went hand in hand with R (*dzjanëk*, *kanëk* vs. *halubók*), but U ignores diminutives of this kind with palatalized consonants. This could be an indication that R and Br retained the distinction of *l'*, *n'*, *r'* longer than U; but it must not be so interpreted.

Thus, there are some hints at dialectal variety in the growth of palatalization within the various Sl languages. But the map of these varieties still cannot be drawn.

7. Summary. Conditions and effects. The only CS phonemic opposition in palatalization, viz. *l'*, *n' r'* vs. *l*, *n*, *r*, remained the only one in the SW dialects (Sn, SC, probably M). The spread of palatalization to other consonants in the position before front vowels in all other Sl dialects was the last link in the series of changes which resulted in intrasyllabic harmony. Being the latest change, and very belated, it was implemented at the time when the opposite tendencies were operating in Sl. Therefore it was thwarted in the SW and partially also in Bg (before *e*, *ę*), Cz and WU (before *e*); and it was reversed after a certain time in most Central and W dialects (Pb, Sk, Cz, U, Bg). The overall palatalization of consonants other than CS *l'*, *n'*, *r'* before front vowels, originally automatic, became phonemic in prehistorical time owing to the split of $_{e}a$ into *e* and *o*, in the position before *o* (P, So, possibly Br); the split of $_{e}\bar{a}$ into *e* and *a*, before *a* (P, Pb, later Bg); the change of *ę* into *'ą* (P, Pb) or *a* (R, Br, U, possibly So, Sk, Cz); and the coalescence of *ĭ* and *ŭ* in *ə* > *e* (P, So, Cz, partially Pb). With the loss of *jers* the phonemic opposition asserted itself also in word-final and preconsonantal positions.

The rise of phonemic opposition in palatalization in various Sl languages by the time of the loss of *jers* may be summarized in the following table[11]:

Language	Before *o* < $_{e}a$	Before *a* < $_{e}\bar{a}$	Before *a* (*ä*) or *ą* < *ę*	Before *ə* < *ь*	Final and preconsonantal	Total number of positions
R			+		+	2
Br	(+)		+		+	2 or 3
U			+		+	2
P	+	+	+	+	+	5
Pb		+	+	+	+	4
So	+		(+)	+	+	3 or 4
Sk			(+)		+	1 or 2
Cz			(+)	+	+	2 or 3
Bg		+			+	2

[11] Dubious cases are in parentheses.

The table is incomplete in that it does not show the opposition in palatalization before unstressed *a* from *ₑa* in the area of *akan'e* (SR and Br), nor does it take into account the second shift of *e* > *o* which took place somewhat later in R. With these additions the number of positions of phonemic palatalization in R and Br grows to 4 for each.

From the point of view of phonemic palatalization, then, the Sl languages may be classified as highly saturated (index 5 or 4), P, R, Br, Pb and possibly So; and slightly saturated (index 3 and lower), U, Sk, Cz and Bg. With the exception of Pb, this classification coincides strikingly with that suggested above as to languages which retain phonetically or both phonetically and phonemically the full scope of palatalization (P, R, Br) and those which reversed the trend (U, Sk, Cz, Bg). If Pb slipped into the latter group this may be a result of being exposed to the strong and in the long run destructive German influence.

The final effect of the palatalization of consonants in Sl proved to be a complete contradiction of its cause. The palatalization was brought about by the tendency to accomodate consonants to the vowels following within the syllable, in this respect to subordinate the consonants to the vowels, with front vowels taking automatically palatalized consonants and non-front vowels the non-palatalized counterparts. This palatalization was by its very nature extraphonemic. It resulted however in the emancipation of palatalized consonants from their dependence on following vowels and in the doubling of the number of consonantal phonemes. Starting as a delayed episode in the trend toward a "vocalic" type of language, it ended by producing a radical switch to a "consonantal" type.

Consequently, one might expect that the immediate or possibly more remote consequence of this increase in the number of consonantal phonemes would be certain reductions in the inventory of vocalic phonemes. Actually some took place immediately, during the very process of phonemic palatalization. The loss of one of the *jers* (by merger of *ĭ* and *ŭ* in *ə* in P, Pb, So and Cz) and then of both, the loss of *ę*, delayed in P and Pb but immediate elsewhere, were the first responses to the new challenge.

Another effect of the rise of phonemic palatalization was the loss of /y/. While *i* admitted only palatalized consonants, *y* never did. The complementary distribution which, thus, arose for *i* and *y*, with the entire load of phonemic opposition shifted onto the consonants, resulted in the loss of the phonemic independence of *y*. This is the situation in R and Br, essentially also in P and So. The complete loss of *y* as a separate vowel was but a continuation of the same tendency carried to its ultimate consequences. This was accomplished by complete coalescence with *i* (U[12], Bg) or by their partial merger (in Sk and standard Cz *y* changed into *i* phonetically in the late fourteenth century, but the distinction is preserved after *t*, *d*, *n* in these consonants: they are palatalized

[12] U, as shown in section 5e, soon restored the opposition by changing *ě* (and later *e*, *o*, in certain positions) into *i*.

before *i* from *i*, non-palatalized before *i* from *y*: Cz *títi* 'heat' [t'īt'i] < *tęti* vs. *týti* 'fatten' [tīt'i] < *tyti*) or by diphthongization of both (Pb *i* > *ai*, *y* > *oi*).

These were more or less direct responses to the situation created by the rise of phonemic palatalization in consonants. In the long run this rise paved the way to a more radical reduction of the vowel system, influenced also by other factors: the loss of phonemic pitch in vowels with a subsequent abrogation, in some Sl languages, of opposition in vowel quantity as well. It is hardly accidental that none of the languages with markedly advanced palatalization preserved the opposition in pitch, and that only some of those which reversed the trend toward palatalization have retained phonemic quantity in their vowels until the present time (Sk, Cz) (See 33,17).

The overall palatalization of consonants before front vowels with the ensuing growth of phonemic palatalization also drastically affected the morphology of the Sl languages involved, especially their declension. The study of these effects belongs to the histories of the individual Sl languages.

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32. SHIFTS IN VOWEL QUANTITY

1. Preliminaries. 2. Shortening of final long vowels in di- and polysyllabic words. 3. Problem of length of final vowels in monosyllabic words. 4. Length in the first syllable of disyllabic words. 5. Length in non-final syllables of polysyllabic words. 6. Chronology. 7. Area. 8. New lengths from contractions. 9. Conditions and effects.

1. In the mid-ninth century, after the split of ${}_{o}\breve{\bar{a}}$ into *ŏ* and *ā*, some Sl vowels are supposed to have been only short: *ь, e, o, ъ*. They developed from *ĭ*, ${}_{e}\breve{a}$, ${}_{o}\breve{a}$ and *ŭ* respectively. Others are supposed to have been only long: *ī, ě, ā, ū, ȳ, ǭ ę̄*, which continued the long monophthongs or diphthongs of the preceding period: *ī* arose from *ī* and ${}_{e}ai$; *ě* from ${}_{e}\bar{a}$ and ${}_{o}ai$; *ā* from ${}_{o}\bar{a}$; *ū* from ${}_{o}au$, ${}_{e}au$; *y* from *ū*; *ǫ* from ${}_{o}a$N and *u*N; *ę* from ${}_{e}a$N and *i*N. As to *i* and *u*, they could also have been short in the positions before *j* (See 29,6) and before *r*, *l* (See 30,1 and 5), but these differences were conditioned environmentally.

Such a distribution of length and brevity would mean that quantity in Sl vowels became redundant. It was an automatic concomitant of certain phonetic qualities. While in the preceding period the distinction between, say, *$n_{o}asu$ and *$n_{o}\bar{a}su$ was expressed solely by a difference in quantity, now that ${}_{o}a$ had become *o* and ${}_{o}\bar{a}$ had become *ā* the words became *nŏsъ* 'nose' and *nāsъ* 'us' (gen, loc). Although *o* was still short and *a* still long, this distinction was trivial; the qualitative opposition *o* vs. *a* sufficed to distinguish between the two words.

Such a situation invited a subsequent loss of length as a distinctive (phonemic) feature. Yet this did not occur in most of the Sl languages. Opposition in quantity is still alive in Sk, Cz, Sn, and SC. In P it was abolished only in the sixteenth century, in Ka in the nineteenth.

The reason for the preservation of the opposition in quantity was that in reality the vocalic system of Sl never reached the complete fixation of length on certain vowels and brevity on others. Shifts in quantity took place at the same time as, or immediately after, the qualitative changes of vowels which marked the Sl of the seventh – ninth centuries. While in general, say, ${}_{o}\breve{\bar{a}}$ split into *ŏ* and *ā*, very soon in some words (positions) *ā* was shortened, in others *ŏ* was lengthened, so that the simple opposition *ŏ* vs. *ā* with redundant length in *ā* was replaced by a more complicated configuration

ŏ vs. *ō*
ā vs. *ă*

Although the frequency of *ō* and *ă* was low, it was enough to keep the opposition in quantity alive.

The number of shifts in quantity varied from one dialect to another. Gener-

ally, the opposition in quantity was kept longer in dialects in which more shifts in quantity occurred. Thus, even theoretically it would be expected that that number was higher in, say, Sk or SC than in R or Bg.

The shifts were twofold: they partly consisted of shortenings of long vowels, partly of lengthenings of short vowels. Some were connected with pitch mutations directly, others indirectly. In this chapter those shortenings and lengthenings will be examined which were not based on a pitch mutation. Shortenings, which were much more numerous (a sign of a tendency to lose length), depended largely on the number of syllables and on the position of the syllable in relation to the end of the word and to the place of stress. It is expedient therefore to examine them separately in mono-, di- and polysyllabic words. There were special rules for vowels in word-final position. Lengthenings, which were less numerous insofar as they were not due to prosodic mutations, resulted as a rule from contractions.

Length in CS was associated with pitch distinctions. This aspect of the problem is not considered in this chapter except where reference to pitch is unavoidable. Even then a more detailed analysis of pitch is to be found in chapter 33, where some of the quantity shifts are taken up again and examined from the point of view of intonation.

2. Shortenings of final long vowels in di- and polysyllabic words. All long final vowels in di- and polysyllabic words, whether stressed or unstressed, were shortened. No Sl language now reveals any original length in this position. E.g., final *-a*, once arisen, is treated like *-o*, in respect to quantity, in, e.g., Sk *jama* 'pit' and *radlo* 'plough', Cz *jáma* and *rádlo*, SC *jȁma* and *rȁlo*; in SC *čȉsta* 'clean' (fem) and *čȉsto* (neut); and, under the original stress in, say, Sk, Cz *koza* 'goat' and *čelo* 'forehead', SC *kòza* and *čèlo*, Čak *kozȁ* and *čelȍ*, although *a* comes from *-ā*, *-o* from *-ă*. Cf. also in polysyllabic words Sk, Cz *beseda* 'talk', SC *bèseda*, Čak *besȅda*. Sn, which can have length only under stress, has the same brevity in, e.g., *meglà* 'mist', *gubà* 'fold' as in *suknò* 'cloth'.

One finds some similarity in the Balt languages, but it is only partial and accidental. Li, like Sl, shortened final vowels with former RP, as in *rankà* 'hand', *žiemà* 'winter'; but unlike Sl, it preserved length under the original FP, as in *katė̃* 'cat', *šuõ* 'dog'. OPr preserved length, so far as one can judge from the scanty indications in OPr manuscripts, e.g. *twaiā* 'thy' (fem), *imtā* 'taken' (fem). Le resembles Sl in that it has not preserved final lengths at all; but in Le this shortening occurred in all final syllables, i.e. before a final consonant as well, which was not the situation in Sl. Hence Le has not only *roka* (*rùoka*) 'hand' but also *rokas*, gen sg. Thus, the Sl development is independent of those in the Balt languages.

When final length is found in di- or polysyllabic words in the Mo Sl languages, it always is of a later origin and is due either to contractions (as Sk *čistý* 'clean', from *čīstyjə*), or to the loss of a following consonant or syllable (as in Cz *vedou* 'lead' 3 pl, from **vedǫt'ə*), or to shifts of stress and the rise of new pitches (as in Sn *morjȇ* 'sea').

3. Problem of length of final vowels in monosyllabic words. In monosyllabic words which bear full stress (i.e. not enclitic or proclitic) Sk and Cz apparently follow the same pattern as in other words: final vowels are short, e.g. Sk, Cz *ty* 'you', *my* 'we', *tu* 'here', Sk *tri* 'three', Cz *tři*. If Cz has *já* (Sk *ja*) 'I', its length may go back to OCz *jáz* where *ā* was not in final position.

In Sn and SC, however, the situation is different: final length is found in some words. This is particularly clear in the forms of 2,3 sg aor in SC: *vî, lî, klê, mrê* from *vȉti* 'weave', *lȉti* 'pour', *kléti* 'curse', *mréti* 'die'; also in originally disyllabic *zvâ, brâ* from *zvȁti* 'call', *brȁti* 'take', etc. This length cannot be analogous: in most verbs of the type it appears only in these forms (Cf. brevity even in the aor, 1 sg: *vȉh, lȉh, zvȁh, brȁh*). Besides these aor forms, final length in monosyllabic words occurs in both Sn and SC in some other words with original length: Sn, SC *tî* 'you', *mî* 'we', *trî* 'three'; SC *tû* 'here' (but Sn *tù*), Sn *krî* 'blood'; cf. also Sn and SC *jâ* 'I' (Sn also *jàz*, Čak *jȁ*). Long vowels in final position are also found in some words which became monosyllabic after the loss of a *jer* in the root. e.g. Sn *hčî* 'daughter', SC *kćî* (< **dŭktī*), Sn, SC *dvâ* 'two' (<*dŭvā*). Moreover, the originally short vowel is lengthened in Sn *stộ* 'hundred', SC *stô*, SC *dnô* 'bottom' (along with *dnȍ*), but not in SC *kȍ* 'who' (< **kŭtŏ*), *štȍ* 'what' (vs. Sn *kdọ́* 'who').

The vowels in the cited Sn and SC words had both FP (aor forms of the type *vî, lî*) and RP (other forms cited) and even brevity, but nowadays their length is combined with the intonation which normally continues CS FP. This makes the lack of length in Sk and Cz forms ambiguous: it may have resulted from a shortening conditioned by word-final position; but it can also be the normal continuation of length with FP. In the first interpretation length in words of the *tî* type in Sn and SC is a local feature, in the second it may be a phenomenon of much wider area.

Whatever the area of final length in the words cited, the FP in both categories, the original monosyllabics (type *tȳ*) and the original disyllabics (type *dŭvā*) is for the most part not CS (See 33,8). Its rise in words of the type *dvâ* or *stô* may have been the reaction to the shift of stress from the *jer* and/or the subsequent loss of the *jer* in the initial syllable. If this explanation is accepted, the lack of length in words of the type of Sn *dnò* 'bottom', *tlà* 'floor', *vsè* 'all' (neut sg). SC *tlȅ, svȅ* is either to be ascribed to the original final stress (which is uncertain) or to be deduced from the morphological resistance: as neuter subst normally ended in a short *o* or *e*, lengthening of this vowel in the few words of the type *dno* was suppressed dialectally, a circumstance which did not play any role in isolated pronouns or numerals. The factor which precluded the rise of length connected with FP in *kъto, čьto* could have been the specific interrogative character which made them word-phrases in some instances, proclitics in others.

In Sn and SC there is a kind of complementary distribution of length in most words of the *dvâ*-type and in those disyllabics which preserved a vowel in place of the weak *jer* in the root, of the type Sn *temà* 'darkness', SC *táma*, cited extensively in 29,9. It may be supposed that disyllabic words with a weak *jer* lost in

the root syllable resorted to the other alternative in the Sn and SC area, to wit the development of a new length combined with FP on the final vowel.

In considering final length (and FP) in words of the *ty*-type, i.e. those which had no *jer* in the root, the remarkable fact is that the same type of length is found in all monosyllabic forms of the demonstrative pron Sn *tâ* 'that' (masc, fem sg) (< **tŭ, tā*), *tộ* (neut sg), SC *tâ* (fem sg), *tô* (neut sg), although some of them (masc sg) have their vowel from a *jer*. Obviously lengthening (combined with FP) arose on the final vowel of all full-fledged originally monosyllabic words (For the relation of this FP to NFP see 33,8).

The development in such words is to be reconstructed as:

(1) Shortening of all final long vowels: *tȳ* > *ty*; *to* unchanged;

(2) Lengthening of final vowels in full-fledged monosyllabic words: *tŷ*, *tô*. If Sk and Cz followed the same development, one more stage is to be assumed for them:

(3) Shortening of all vowels under FP whether final or not (for possible exceptions see section 4): *tŷ*, *tô* > *tў*, *tŏ* as *hrâd* > *hrăd* 'castle'.

Stages (2) and (3) for Sk and Cz are only theoretical constructs. These languages could also have arrived at their present distribution directly from stage (1).

4. Length in the first syllable of disyllabic words. The quantity of the vowels in the first syllable of disyllabic words with a *jer* in the second syllable was discussed in 29,7-8; see also 33,3. In this section only words with vowels other than *jers* in the second syllable will be examined, and the term "disyllabic word" will imply the presence of two vowels other than *jers*.

The treatment of an originally long vowel in the first syllable of disyllabic words depended on the place of stress. Under stress the length combined with RP was lost in P with Snc, Sk and SC, but preserved in Cz. Sn belonged to the first group in that it shortened lengths under RP; later, however, it shifted stress from the final syllable onto the penultimate, and this shift brought about a general lengthening of all vowels in the newly accentuated syllable, whether originally long or short. In its present-day reflexes Sn is closer to Cz than to SC, but this is a delusory resemblance, not a genetic affinity. See 4,4.

Examples for the treatment of originally long stressed vowels in the first syllable of disyllabic words:

Snc *bâbă* 'old woman', Sk *baba*, SC *bȁba*[1] vs. Cz *bába*; Sn *bába*; for stress place cf. R, Br, U, Bg *bába*;

Sk *iva* 'willow, sallow', SC *ȉva* vs. Cz *jíva*; Sn *íva*; cf. R, Bg *íva*;

Snc *ščũkă* 'pike', Sk *šťuka*, SC *štȕka*; Sn *ščúka*; cf. R *ščúka*, Bg *štúka* (Cz *štika* deviating);

Snc *măc* 'wash', Sk *myť*, SC *mȉti* vs. Cz *mýti*; Sn *míti*; cf. R *myť*, U *mýty*;

Snc *řìₑpă* 'turnip', Sk *repa*, SC *rȅpa* vs. Cz *řípa*; Sn *rẹ́pa*; cf. R *répa*, Bg *rjápa*;

[1] In SC this is the general reflex of RP; whether or not the length in the position under discussion was lost prior to the general shortening of vowels under RP cannot be demonstrated.

Snc *tą̃čă* 'cloud'[2], P *tęcza* 'rainbow', SC *tȕča* 'hail' vs. Sn *tọ́ča* 'hail'; cf. R *túča* 'cloud'.

The same relationships obtain in such words as Sk *krast'* 'steal', *stat'* 'take a stand', *tak* (< *tako*) 'so', *naša* 'our' (fem), *jama* 'pit', *sadlo* 'tallow', *mat'* 'mother', *čaša* 'bowl', *sito* 'sieve', *žito* 'rye', *sliva* 'plum', *hlina* 'clay', *hnit'* 'rot', *kura* 'hen', *kl'uka* 'handle', *muka* 'torture', *mucha* 'fly', *jutro* 'morning', *ucho* 'ear', *ryba* 'fish', *mydlo* 'soap', *ryt'* 'dig', *peha* 'freckle', *veko* 'eyelid', *klat'* 'prick', etc. Occasional deviations in the individual languages stem from vacillations in stress place (e.g. R *kljuká* 'crutch' vs. U *kljúka* 'hook', SC *kljȕka*; R *voróta* and *vorotá* 'gate'; SC *strȕna* 'string' vs. R *struná*; Snc *vĩmją* 'udder' vs. R *výmja*, etc.); or from inter-Sl borrowings (Sk *sláva* with length because borrowed from Cz), not to mention possible levelings conditioned morphologically.

Under FP length is preserved in SC but lost in the other languages which come under consideration, e.g. SC *mêso* 'meat' vs. Snc *mją̃sö*, P *mięso*, Sk *mäso*, Cz *maso*. In Sn stress is usually advanced onto the next syllable, which automatically entails a shortening of the originally stressed vowel: *mesộ*.

In pretonic position the treatment of length in SSl, as represented by Sn and SC, differs from that in NSl, as represented by P with Snc, Sk and Cz. In the south all pretonic lengths are preserved as such in disyllabic words[3]. The stress (retracted onto the originally pretonic syllable) is invariably rising. Obviously the opposition of RP vs. FP was eliminated in this position in the course of time. Čak follows the trend in preserving length in the pretonic syllable of disyllabic words, although it did not go through stress retraction.

In the north RP and FP are fairly well distinguished in this position. Length is preserved under RP, lost under FP. In most cases the first characterizes paradigms with fixed final stress, the second those with mobile stress. Deviations are rather rare.

[2] Snc reflected original length and brevity in the qualitative distinctions of its vowels. The following is a table of Snc double reflexes for the vowels of late CS (for deviations in certain specific phonetic environments grammars of Snc are to be consulted):

CS vowels	Snc reflexes if originally short	Snc reflexes if originally long
a	*a*	*åu̯*
ě	*iₑ* ('*a* before hard dentals)	*ė* ('*åu̯* before hard dentals)
i; *ę* except before hard dentals	*ȧ* (*i* after *j*, *n*, labials, and hushing consonants)	*ï*
y	*ȧ* (*i* after *n*, labials)	*ï*
u	*ȧ* (*ü* after labials, velars, *č*, *j*)	*u̇*
o	*üₒ*	*ȯu̯*
e	*iₑ*	*ė*
ǫ; *ę* before hard dentals	*ą*	*ȯu̯* (*ȯu̯*)

[3] Whether Sn preserved here the original length or restored it while retracting the stress (i.e. whether the length of *trọ́ba* 'trumpet' is original or passed through the stages *trọ̄bá* > *trọ̀bá* > *trọ́ba*) is an open question. For the sake of simplification Sn will be represented in its present state, disregarding possible transitional stages.

Thus, pretonic length under RP was preserved in both the south and the north, length under FP in the south only (See also 4.4). It is not impossible that the preservation of length in the pretonic syllable of disyllabic words first arose as a reaction to a shortening of the final vowel and then spread by analogy to other forms of the paradigm, with short final vowel. If so, the shortening of final vowels kept intact the existing length of the vowel in the preceding syllable but did not lengthen the short vowel in this syllable. Hence SC *rúka* 'hand' (Čak *rūkă*) but *žèna* 'wife'. If Sn has *žéna* along with *róka*, the length of *e* results (as explained above) from stress retraction and is a Sn development of a later date.

The preservation of length under FP in both Sn and SC is in line with their general treatment of FP. Nor is loss of length in the pretonic syllable of disyllabic words in P with Snc, Sk and Cz if the length was combined with FP a peculiarity of this particular position. These languages reflect any FP as brevity[4]. In the case of RP the Cz reflex again does not differ from the normal reflex under these conditions. But P with Snc and Sk as well as SC have here a special preservation of length, otherwise not a normal reflex of RP.

These considerations may be exemplified by two words: *trǫba* 'trumpet', with RP, and *rǫka* 'hand', with FP[5]. The cases in which length is preserved in defiance of the general rule for a given language are framed:

	P	Sk	Cz	Sn	SC	R
RP:	*trąba*	*trúba*	*trouba*	*tróba*	*trúba*	*trubá* – acc *trubú*
FP	*ręka*	*ruka*	*ruka*	*róka*	*rúka*	*ruká* – acc *rúku*

Thus the general rule is that length in pretonic syllables in disyllabic words, if combined with FP, gave the same reflexes as FP under stress, with no peculiarities (except in Sn); under the same conditions lengths combined with RP were retained everywhere, even if otherwise RP is represented as brevity. It may be assumed that preservation of pretonic length was common Sl, later lost under FP in those Sl languages which shortened all length under FP.

A few more examples follow:

a) With RP: Snc *mîtö* 'reward', Sk, Cz *mýto* 'duty', Sn *míto* 'bribe, rent', SC *míto* – cf. OR *mytó*;

Snc *mjăųzgă* 'sapwood', Sk *miazga*, Cz *mízha*, Sn *mẹ́zga*, SC *mézga* – cf. R *mezgá*, Bg *mlezgá* 'sap';

Sk *krúpa* 'groats', Cz *kroupa*, Sn *krúpa* 'pot barley', SC *krúpa* (Čak *krūpă*) 'hail' – cf. R *krupá* 'groats', Le *kraũpa* 'wart' (Snc *krăpä* deviating).

Further examples are SC *krílo* 'wing', *kléti* 'curse', *múka* 'meal', *rúno* 'fleece', *hvála* 'praise', *glísta* 'worm', *krása* 'snake', *gnézdo* 'nest', *dléto* 'chisel', *mléko* 'milk', *túći* 'hit', etc.

[4] A possibility exists that Cz originally also belonged to the same group as Sn and SC. OCz has forms with length in such words as *zíma* 'winter', *strána* 'land', *stiena* 'wall' and some others. In the further discussion the data from Mo Cz are used.

[5] Instead of reference to pitch one can speak of paradigms with fixed final stress vs. paradigms with movable stress.

b) With FP: Snc *zə̃mă* 'winter', Sk, Cz *zima* (but OCz *zíma*, acc *zimu*), Sn *zíma*, SC *zíma* (Čak *zīmȁ*) – cf. R *zimá* : acc *zímu*;

P *grzęda* '(garden)bed', Snc *gə̃ą̃dă*, Sk *hrada*, Cz *hřada*, Sn, SC *gréda* (Čak *grēdȁ*; SC acc *grêdu*) 'beam' – cf. R *grjadá*;

P *broda* 'beard', Snc *brȕ₀dă*, Sk, Cz *brada*, Sn, SC *bráda* (Čak *brādȁ*) – cf. R *borodá* : acc *bórodu*.

There are a few cases of the two types mixed, e.g.:

Sk *strela* 'arrow', Cz *střela* vs. Snc *střə̃u̯lă*;

Sk *rieka* 'river' vs. Cz *řeka* (but OCz *řieka*);

Sk *jucha* 'soup' vs. Cz *jícha*;

Snc *bə̃rnă* 'harrow' vs. Cz *brana*.

But the principle of the original distribution is still manifest, and the number of deviations relatively small.

5. Length in non-final syllables of polysyllabic words. The treatment of length in longer words does not differ from that in trisyllabic ones. Therefore it suffices to analyze the latter (occasionally examples of longer words will be cited). The following positions lend themselves to an examination: a) stressed initial (type R *pálica* 'stick'); b) stressed medial (type R *kopýto* 'hoof'); c) pretonic initial (type R *malína* 'raspberry'); d) pretonic medial (type R *tetivá* 'bowstring'); e) pre-pretonic initial (type R *tetivá*; and f) postaccentual medial (type R *gólubi* 'pigeon', pl). A special treatment was a possibility when a *jer* had followed in the syllable after that under scrutiny.

Sn is to be excluded from consideration in most cases in this section. It has opposition of length and brevity only under stress; in addition, stress without length is admitted only in final syllables. In any other syllable stress automatically brings length, even on originally short vowels, as e.g. *svobóda* 'freedom', *osnôva* 'foundation'. Thus length in the non-final syllable of a trisyllabic word does not specify either the presence or absence of former length. Indirectly, an insight into earlier quantitative relations is occasionally gained by the analysis of stress shifts[6].

a) Stressed initial syllables. All the languages which still possess phonemic quantity, except Sn, as a rule display brevity in this position. The same is found indirectly in Ka. In nouns this situation is preserved quite well, e.g.:

Sk, Cz *ulica* 'street', SC *ȕlica* – cf. R *úlica*, Sn *úlica*;

Sk, Cz *lahoda* 'sweetness', SC *lȁgoda*, Ka *lág*ᵘ̯*odnosc* – cf. U *láhoda* 'accord', Sn *lágoda*;

Sk *lastovica* 'swallow', Cz *lastovice*, SC *lȁstovica* – cf. R *lástočka*, Sn *lástovica*;

Sk, Cz *rataj* (< *$_o$*art*$_o$*āji*) 'ploughman', SC *rȁtār* – cf. R, Bg *rátaj*, Sn *rátaj*.

Further examples are Cz *pěnice* 'white-throat', *jahoda* 'berry', *palice* 'stick', SC *pȁkosnīk* 'nasty man', *mȅsēc* 'moon', etc.

In nominal paradigms shortening of long vowels took place in those cases which had an extra-syllable. These were dat sg masc in *-ovi* (as OCS *synъ* :

[6] In the case of the originally short vowels *o, e* the stress ˊ points to a shift of stress form the final syllable. Cf. SC *svobòda*. The stress ˆ combined with the *ϱ, ę* reflexes of *o, e* in those areas of Sn which distinguish *ϱ, ę* (= ᵤ*o*, ᵢ*e*) and *ọ, ẹ* (= *o*ᵤ, *e*ᵢ) is usually an indication of a later lengthoning in non-final syllables, as under NFP.

synovi 'son'); nom pl masc in *-ove* (OCS *synove*); instr sg fem in *-ojǫ* (OCS *ryba* : *rybojǫ* 'fish'); dat, instr and loc pl (OCS *rybamъ, rybami, rybaxъ*); and oblique cases of consonantal stems as opposed to the nom sg (OCS *kamy* 'stone' vs. *kamene*, gen sg, etc.). In the attested Sl languages survivals of the shortenings in these case forms are discernible only residually, inasmuch as they eschewed levelings within the paradigms. The dat sg masc in *-ovi* nowhere preserved its quantity distinction in the first-syllable stressed vowel as compared with other sg case forms. The nom pl in *-ove* has preserved brevity as its earmark in SC, e.g. *brêg* 'hill' : *bréga* gen sg but *brȅgovi*, nom pl; *zîd* 'wall' : *zída*, gen sg, but *zȉdovi*, nom pl. In Sn a shortening of the root vowel in this form is shown indirectly by the advance of the stress onto the short vowel of the next syllable, which has NFP: *grâd* 'castle' : *grâda*, gen sg but *gradôvi*, nom pl.

Shortening of the root vowel in the instr sg of fem in *-a* still occurs in Cz, albeit in scattered words only and often with doublets, e.g. *blána* 'membrane' : *blanou*, *jáma* 'pit' : *jamou*, *díra* 'hole' : *děrou* (and *dírou*), *hlína* 'clay' : *hlinou* (and *hlínou*)[7]. SC still shortens a first-syllable long vowel in the dat-instr-loc of fem in *-a*, as in *bráda* 'beard' : *bràdama*, *svínja* 'pig' : *svìnjama*, *strána* 'land' : *strànama* and a few more.

In consonantal stems the difference in length between the di- and trisyllabic forms is best preserved in Cz, as in *kámen* 'rock' : *kamene*, *máti* 'mother' : *mateře*, *plémě* 'race' : *plemene*, although it is better retained in bookish words and lost in most words with a high frequency of colloquial use (as e.g. *hříbě* 'foal' : *hříbete*, etc.). SC also preserves this opposition in the types *blîzne* 'twin' : *blȉzneta* and *vréme* 'time' : *vrȅmena*, whereas in the *kȁmēn* type brevity of trisyllabic forms is generalized[8].

In verbs brevity is well preserved. Examples are numerous and extend to all important classes of verbs. Cf. P *więdnąć* 'fade', Snc *vją̃gnóu̯c*, Sk *vädnúť*, *hynúť* 'perish', Cz *vadnouti*, *hynouti*, SC *vȅnuti*, *gȉnuti*; Snc *řãzăc* 'cut', *pãdăc* 'fall', Sk *rezať*, *padať*, Cz *řezati*, *padati*, SC *rȅzati*, *pȁdati*; Snc *vjĩʒěc* 'see', *rẽňăc* 'wound', Sk *vidieť*, *raniť*, Cz *viděti*, *raniti* (cf. *rána*), SC *vȉdeti*, *rȁniti*; Snc *mjilũu̯văc* 'love', *redũu̯văc* 'gladden', Sk *milovať*, *radovať*, Cz *milovati*, *radovati*, SC *mȉlovati*, *rȁdovati*. The same brevity is used as a rule throughout the present tense, which is not surprising because all its forms, except 1 sg, were polysyllabic.

Deviations from these rules are few. Occasionally they hearken back to relatively recent denominal derivations, which preserve the quantity of the root vowel in the underlying word, as Cz *stárnouti* 'get older', from *stár* 'old', SC *prâvdati* 'acquit', from *prâvda* 'trial'. But in most cases they are accounted for by the stress doublets, whether original or of later date, as in Snc *krãxăc* 'croak' in agreement with the stress place in R *krjákat'* 'quack' vs. Sk *krákať*, Cz *krákati* with length of *a* in agreement with the stress place as indicated by

[7] The problem of NFP in these forms is discussed in 33, 6.

[8] Sk *kameň* is inconclusive, because Sk shortened its long vowels both in trisyllabic words and, under RP, in disyllabic words.

SC *krákati*; or SC *trùćiti* 'throw' in agreement with U *trútyty* but conflicting with P *trącić*, Cz *troutiti*, which point to the original stress on the suffix.

When the medial syllable had a (weak) *jer* the shortening is found all the same in Snc, Sk, Cz and SC; Sn reacts to the loss of this *jer* by ˆ instead of ′ on place of the original RP, e.g.:

Sk *tekvica* 'pumpkin', Cz *tykev*, SC *tȉkva* – cf. R *týkva* (OR *tykъve*, gen sg), Sn *tîkva*;
Snc *bũkvjă* 'beechnut', Sk *bukva*, Cz *bukvice*, SC *bȕkva* – cf. Sn *búkev* ~ *bûkva*; OCS *bukъvi* 'writing', pl.:
Sk *inde* 'elsewhere', Cz *jinde*, SC arch *ȉndje* – cf. U *índe*, Sn *înde*; OCS *inъde*.
See also SC *brȁšno* 'meal', *sȑce* 'heart', *jȁbuka* 'apple', etc.

In the case of two successive *jer* syllables, to judge from the insufficient material available, the shortening is reflected in WSl but not in SSl, e.g.:

P *bęben* 'tambourine', Ka *bąbän*, Sk *bubon*, Cz *buben* vs. Sn *bǫ̂ben*, SC *bȗbanj* – cf. R *búben*, ChSl *bǫbьnъ*;
P *tęten* 'tramp' – vs. SC *tȗtanj* 'hum' – cf. R dial *túten*, OCS *tǫtьnъ*.

b) Stressed internal syllables. In all the languages which still distinguish length and brevity, except Sn, the originally long vowels are represented in this position as short. Snc has reflexes of short vowels. Examples:

Snc *lüöpată* 'spade', Sk, Cz *lopata*, SC *lòpata* – cf. R *lopáta*, Sn *lopáta*;
Snc *müötăkă* 'hoe', Sk, Cz *motyka*, SC *mòtika* – cf. R *motýga*, Sn *motîka*;
Snc *rüözănă* 'family', Sk, Cz *rodina* – cf. U *rodýna*, Sn *rodína*. Deviating stresses are found in R *ródina* 'fatherland' and, final, in SC *rodìna* 'good crop'.
A few other examples are Cz *kopyto* 'hoof', *kobyla* 'mare', *poleno* 'log', *hromada* 'heap', *otava* 'aftermath', *beseda* 'conversation', *rokyta* 'willow', *koleno* 'knee', *železo* 'iron', *koryto* 'trough', *hovado* 'beast', etc. A few more examples are cited under (c).

In verbs the suffixes *a*, *i*, *ě* represent the same case, as in P *kąpać* 'bathe', Snc *ką̃păc*, Sk *kúpat'*, Cz *koupati*, SC *kúpati* – cf. R *kupát'*, Sn *kópati*; P *tążyć* 'yearn', Snc *tą̃žěc*, Sk *túžit'*, Cz *toužiti*, SC *túžiti* – cf. R *tužít'*, Sn *tóžiti*; Snc *gŭöřěc* 'burn', Cz *hořeti*, SC *gòreti* – cf. R *gorét'*, Sn *goréti*, and numerous other examples. Standard Sk deviates, however: in the case of *ě*-verbs it has length: *horiet'*, *sediet'* 'sit' (as well as *vidiet'* 'see' with the original initial stress). The same applies to verbs with the *-nǫ-* suffix. Here, too, Sk has length, e.g. *minút'* 'miss', *hrnút'* 'rake together' as well as *kysnút'* 'grow sour' – cf. R *gorét'*, *sidét'*, *minút'*, U *hornúty* but R *vídet'*, *kísnut'*. In the case of the suffix *-nǫ-* Sk is joined by Cz with its *minouti*, *hrnouti*, *kysnouti*, P with its *minąć*, *garnąć*, *kisnąć* and Snc with its *mjînǫ̀c*, *gãrnǫ̀c*, *ʒînǫ̀c* 'disappear'. The same treatment may be supposed for Pb, cf. *vətåknǫ̂t* (wattakenûnt) 'stick into'. SC has brevity: *mìnuti*, *gȑnuti*, *kȉsnuti*, but Čak distinguishes two types: under stress it has brevity, e.g. *odahnȕt* 'breathe', *nagnȕt* 'bend', etc., while after stress it displays length, as in *gȉnūt* 'perish', *smȑznūt* 'freeze', etc. This distribution may be assumed also for older P, Sk, and Cz. Thus the generalization of length from the originally unstressed position in the suffix *-nǫ-* in these languages, as well as in the *-ě-* suffix in Sk, is morphologically conditioned. It was facilitated by the stabilization of stress. While in Čak the distribution *-nū-* ~ *-nŭ-* is motivated by

stress, this motivation was soon lost in Sk and Cz, somewhat later also in P. That length in theses cases is the result of morphological levelings is still manifest in Sk in the case of *-ě*-verbs: while standard Sk here has *-ie-* reflecting length, CeSk dialects often have *-e-* along with *-ie-*, i.e. *horet'* alongside *horiet'*. Cz and standard SC generalized brevity with this suffix, SC also with *-nǫ-*.

In one case, however, Cz retained length in the *-ě-* suffix as well as in the *-a-* suffix: after a weak *jer* lost in the preceding syllable, as in Cz *bdíti* 'wake', *hřmíti* 'thunder'; *bráti* 'take', *lháti* 'lie' vs. Sk *brat'*, *luhat'* (OCS *bъděti*, *grъměti*, *bьrati*, *lъgati*). SC material is inconclusive because even if this length was originally retained, it was shortened at the same time as all other lengths under RP. And even in Cz the length in these verbs may have stemmed from a tendency to generalize it in what are now disyllabic infinitives. At least doublets of the type *čníti* ~ *čněti* 'protrude', *hřmíti* ~ *hřměti* 'thunder' suggest that verbs of this type did not escape the original shortening.

Thus behind the variety of facts brought about by morphological levelings the original phonetic shortening of the internal-syllable stressed vowels is still recoverable. In certain cases, not too numerous now, it may still be seen how a long vowel of a disyllabic word loses its length when a syllable is added at the beginning of the word, so that the vowel finds itself in the medial syllable: Cz *dáti* 'give' vs. *zadati* 'give away', *víra* 'faith' vs. *pověra* 'superstition', etc. (the latter pair being imitated in Sk *viera* : *povera*).

The presence of a weak *jer* in the next syllable did not prevent shortening in an internal syllable, e.g. Sk *kupel'* 'bath', Cz *koupel*, SC *kúpel* – cf. OCS *kǫpělь*, R *kupél'* (unless the *jer* was originally stressed. See 33,5a).

c) Pretonic initial syllables. Although there are some contradictory cases not easy to interpret, it may be assumed that, phonetically, length was preserved in this position. A few clear examples of this preservation are:

P *wątroba* 'liver', Snc *vòu̯trŭ̈ₒbă*, Sk, Cz *útroba* 'entrails' – cf. R *utróba* 'maw', Sn *vǫ́troba* 'entrails'; SC has *ȕtroba* because of an early retraction of the stress onto the prefix and because of the SC tendency to shorten any initial *ū*;
Sk *útecha* 'comfort', Cz *útěcha* – cf. R *utéxa*, Sn *utẹ̑ha*; SC *ȕteha* again has a retracted stress and shortening, both of a local character;
P *kąpiel* 'bath', Snc *kőu̯pjėl*, Sk *kúpel*, Cz *koupel*, SC *kúpelj*, Sn *kópel*;
P *kąkol* 'corn cockle', Snc *kőu̯kóu̯l*, Sk *kúkol*, Cz *koukol*, SC *kúkolj* – cf. Br *kukól'*, Sn *kǫ́kolj*.

The same is observed in numerous verbs;

P *kłócić* 'stir', US *kłóćić*, Sn *klátiti*, SC *klátiti* 'shake' – cf. R *kolotít'*;
P *stąpać* 'step', Sk *stúpat'*, Cz *stoupati*, Sn *stǫ́pati*, SC *stúpati* – cf. R *stupát'*;
Sk *trávit'* 'digest', Cz *tráviti*, SC *tráviti* 'feed with grass' – cf. R *travít'* 'badger'.
Cf. also Cz *kouřiti* 'smoke', *žádati* 'demand'; SC *páliti* 'light', *mlátiti* 'thresh', *štípati* 'pinch', *(od)lúčiti* 'separate', *vrátiti* 'return' and many more.

In other verbs however brevity is found under apparently the same conditions, e.g.:

Sk *bežat'* 'run', Cz *běžeti*, SC *bèžati* – cf. R *bežát'*;
Sk *hubit'* 'spoil', Cz *hubiti*, SC *gùbiti* – cf. R *gubít'*;

more often Sk and Cz have brevity, SC length, e.g.:
Sk *cedit'* 'strain', Cz *cediti*, vs. SC *céditi* – cf. R *cedít'*;
Sk *kričat'* 'shout', Cz *křičeti* vs. SC *kríčati* – cf. R *kričát'*;
Sk *sadit'* 'seat', Cz *saditi* vs. SC *sáditi* – cf. R *sadít'*, etc.

However, the two groups of verbs are not quite indentical. Verbs of the type P *kłócić* have movable stress in pres (type R *koločú* : *kolótiš'*) with NRP. Verbs of the second type have or had stable final stress in pres (R *begú* : *bežíš'* : *bežím*, U *bižymó* : *bižyté*, SC *bežímo* : *bežíte*, Sn *bežímo* : *bežíte*[9]. In pres the vowel of the first syllable, being in all persons, except 1 sg, in the pre-pretonic position, normally underwent shortening (See below under *e*). This shortening was transferred by analogy to the inf stem.

This analogical brevity was generalized far beyond this limit in Snc, in which all infinitives of both types have brevity, e.g. *bjìₑžěc* 'have diarrhoea', *gũbjĭc* 'lose' as well as *klŭ̀ₒcěc*, *stą̃pjăc* (but vs. *klṍucą*, *stṍupją* in pres). MP of the sixteenth-seventeenth centuries (beginning with PsPuł) also had some inf forms with brevity, as *więzać* 'tie' (1 sg *wiążę*), *sędzić* 'judge' (1 sg *sądzę*), *rębać* 'hit' (1 sg *rąbię*), possibly of NP provenance; but later they were eliminated and the length generalized: Mo P *wiązać*, *sądzić*, *rąbać*.

There are also certain deviations in nouns: in subst with the suffixes *-in(a)*, *-ic(a)* and in the word (OCS) *językъ* 'tongue'. This brevity must be accounted for by vacillations in stress place.

Brevity in the words in *-ina* is represented in all the Sl languages, e.g. Snc *mãlänă* 'raspberry', Sk, Cz *malina*, SC *màlina* – cf. R *malína*;

P *kępina* 'bunch of growing plants', Snc *ką̃pjină*, Cz *kupina*, SC *kùpina* – cf. R *kupína* 'bush'.

In the latter word stress variants are still seen in R, which has *kupiná* along with *kupína*, and in U *kupyná*; Sn *kupína* may also go back to a form with final stress. In the first example Sl has not preserved evidence of stress other than on the middle syllable, but Balt points to a different stress place: Li *mělina* 'speck', derived from *mel̃svas* 'bluish'. In *językъ* R, Br and U show final stress[10]: *jazýk* : *jazyká*. Bg *ezík*, P *język* may also be a continuation of forms with final stress. SC *jèzik* : *jèzika* points to an older medial stress, but gen pl *jȅzīkā* is explainable from the finally stressed *językъ̀*, and so is the dim *jezíčak*. Sn *jézik*, gen *jezíka* also admits an explanation from a finally stressed form.

Finally, subst with the suffix *-ic(a)* had no fixed stress place either, cf. R *usóbica* 'intestine war', *rýbica* 'fish', *teplíca* 'hothouse', and some words still vacillating, as *dévíca* 'girl'. Therefore the correspondence of Cz *kroupa* 'groats' :

[9] It is natural that in many cases the correspondence is obliterated by shifts of prosodic features, either in Sk and Cz or (in most cases) in R. E. g. Cz *hubiti* does not correspond in its prosodic characteristics to R *gubljú* : *gúbit*; but MR still had *gubít*, 3 sg (Uloženie, 1649); Cz *saditi* corresponds to MR *sadít* (Uč i xitr, 1647), while Mo R has *sádit*, 3 sg, etc.

[10] The forms *jazýka* known from seventeenth-nineteenth-century R and U are usually considered archaic. Actually, they are not necessarily older than the prevalent *jazyká*. They may belong to an artificial church pronunciation, brought by the clergy from the Balkans.

krupice 'grain of groats' with R *krupá* : *krupíca* may be accidental. Brevity in dim like Cz *krupice*, SC *trùbica* 'trumpet' (Cf. *trúba*) may have been generalized from the dim with initial stress.

Thus, the difficulties which are encountered by assuming that pretonic initial length in trisyllabic words was phonetically preserved are not insurmountable. But they are fairly strong. Therefore attempts were made to prove that preservation of length under these conditions was limited to the position before short vowels (Bulaxovskij) or before short vowels and vowels with FP only (Nahtigal). This eliminated all the difficulties associated with the words in *-ina*, *-ica* and *język*ъ. By this explanation, however, the *kopělь* forms with length before *ě* with RP become unmotivated and, what is more important, one has to assume that numerous verbs of the type SC *klátiti* acquired their length by analogy with the pres, but without taking on the character of pitch (pres *klâtīm*), an unusual procedure; or else one must relegate this generalization of length to the time before the rise of NRP, which is not plausible either. Besides, under this theory of partial preservation of length the treatment in pretonic initial syllables would have differed from the treatment in pretonic internal syllables and, at least for Sn and SC, from the treatment of length in initial pretonic syllables of disyllabic words (See section 4).

Both theories being unable to explain all the facts without ambiguities and blank spots, the first fits better into the general pattern of development at the time and has fewer drawbacks[11].

d) Pretonic internal syllables. The pertinent material is scanty and partially contradictory. Subst with the suffix *-in(a)* must be discarded because of the confusion of *-ín(a)* with *-in(á)*, cf. Sk *tíšina* 'silence', Cz *tišina*, Sn *tišína*, SC *tišìna*. Isolated cases like Čak past part fem sg forms of the type *oprālȁ* 'wash', *užīlȁ* 'use', *rodīlȁ* 'bear' as well as Sk *deviati* 'nine' (oblique cases), Cz *devíti* (but P *dziewięciu*) indicate preservation of length in the pretonic internal position. This also is the situation in the pres act part fem with final stress: P *biorąc* 'taking', Cz *berouc*, SC *bȅrūći* (cf. U *beručý*), and in the word Snc *kȍ·ü̯bö·ü̯sȁ* 'sausage', Sk *klbása*, Cz, Sn *klobása* (SC *kobàsica* had different stress conditions, cf. R *kolbasá* but probably **kolbásica*). The discrepancy between SC *tetíva* 'bowstring' with length and Sk *tetiva*, Cz *tětiva* with brevity and, correspondingly, P *chorągiew* 'gonfalon', Sk *korúhev*, Cz *korouhev* vs. SC *hòrugva* may be explained away by assuming stress doublets, with final (cf. R *tetivá*, U *korohvá*) and penultimate stress (cf. Bg *xorógva*).

Furthermore, in words which ended in a stressed *jer* the material, though inconsistent, points rather to the preservation of length;

Sk, Cz *rukáv* 'sleeve', Sn *rokáv*, SC *rùkāv* (gen sg *rukáva*) – cf. R *rukáv* : *rukavá*;
Sk, Cz *koláč* 'cake', Sn *koláč*, SC *kòlāč* (gen sg *koláča*) – cf. R *koláč* : *kolačá*;

[11] It is possible that long vowels in subst prefixes preserved their length in all positions except under stress. Hence *zákon* 'law' in Sk, Cz, Sn and SC; Sk, Cz *závada* 'hindrance', SC *závada* 'quarrel'; P *sąsiad* 'neighbor', Cz *soused*, Sn *sósed*, SC *súsed* (Sk *sused* and the SC doublet *sȕsed* seem to go back to a form with the stress on the initial syllable).

Sk *klobúk* 'hat', Cz *klobouk*, Sn *klobúk*, SC *klòbūk* (gen sg *klobúka*) – cf. R *klobúk* : *klobuká*;
Sk *motýl'* 'butterfly', Cz *motýl*, SC *mètīlj* 'liver-fluke' – cf. R *motýl'* : *motyljá*.

Discrepancies, again, may be accounted for by the possible existence of accent doublets, e.g. P *pstrąg* 'trout' vs. Sk, Cz *pstruh* – cf. for stress on the one hand U *pstruh* : *pstruhá*, on the other SC *pàstruga* 'acipenser stellatus';

Sk *oblúk* 'arc', Cz *oblouk*, Sn *oblǫ̂k* vs. SC *òbluk* as compared to R *óbluk* 'coachman's seat' (but dim *oblučók*) vs. Bg *oblək*.

See also 33,5a.

e) Pre-pretonic initial syllables. In this position long vowels are regularly shortened, cf. the examples cited in d), SC *tišìna*, *tetíva* (P *cięciwa*), *rùkāv* (P *rękaw*); cf. also Cz *vřeteno* 'spindle', *daleko* 'far', *slepota* 'blindness', *trubač* 'trumpeter', etc. Length was preserved, however (or restored) where a *jer* followed, e.g.:

Snc *pjå̃usk* 'sand', Sk *piesok*, Cz *písek*, SC *pésak* – cf. OCS *pěsъkъ*, R *pesók* : *peská*, Sn *pẹ́sek*;
Snc *plõu̯tnö* 'linen', P, US *płótno*, Sk, Cz *plátno* – cf. OR *polotьno*, Bg *platnó*, Sn *plátno*.
See also Cz *útek* (< *utъkъ*) 'weft', *písmo* (probably from *pisьmo*) 'writing', *bílek* 'egg white', SC *vénac* 'wreath', *žútac* 'yolk', etc. (with levelings before certain suffixes in the individual languages):

f) Postaccentual internal syllables. The pertinent facts are confused and often contradictory. In most instances one deals with the suffixes and endings which in various words or various forms of a word could be either postaccentual or accented; the differences in treatment of length in these two positions were later eliminated and one of the forms was generalized, differing from one language to another and, within a language, occasionally from one word to another. There is no general theory to account for every individual word or word form. The most economical explanation and the one that leaves the fewest unexplainable cases seems to be that originally postaccentual internal length was shortened unless followed by a *jer*. In the latter case it was preserved or restored.

Examples for positions other than before a *jer*:
Snc *vùlåcă* 'street'. Sk *ulica*, Cz *ulice*, SC *ȕlica* – cf. R *úlica*, Sn *úlica*;
Snc *rå̃bamĭ* 'fish' (instr pl), Sk, Cz *rybami*, SC *rȉbama* – R *rýbami*, Sn *ríbami*;
Snc *řåzăc* 'cut', Sk *rezat'*, Cz *řezati*, SC *rȅzati* – cf. OCS *rězati*, R *rézat'*, Sn *rézati*.

Deviations, i.e. cases with length in an internal postaccentual syllable are not numerous. They are found in verbs with the suffix *-nǫ-* in Snc, P, Sk, and Cz, and in subst with the suffixes *-išt(e)* and *-iv(o)* in SC, e.g.:

Snc *vją̃dnóu̯c* 'fade', P *więdnąć*, Sk *vädnúť*, Cz *vadnouti* vs. SC *vénuti*; cf. R *vjánut'*, Sn *véniti*;
SC *ògnjīšte* 'hearth' vs. Snc *vùögńìščö*, Sk *ohnište*, Cz *ohniště* – cf. U *vóhnyšče*, Sn *ognjíšče*;
SC *prȅdīvo* 'yarn' vs. Sk *pradivo*, Cz *předivo* – cf. U *prjádyvo*, Sn *predîvo*.

The length in the *-nǫ-* suffix may be derived from the forms where *-ъ* was used in the next syllable: supine (*vę(d)nǫtъ*) and masc of *l*-part (*vę(d)nǫlъ*). On

the relationship between the inf and the supine see 33, 12. If length also occurs in the endings of 1 and 2 pl pres of verbs and in some participles, it is supported there by the other forms in the paradigm: sg in pres, masc in part, e.g. Cz *prosíme* 'beg', 1 pl – cf. *prosí*, 3 sg; SC *prȍsīmo* propose', 1 pl – cf. *prȍsī*, 3 pl; Cz *řezána* 'cut' (fem sg) – cf. *řezán*, masc sg, etc.

The evidence concerning postaccentual length before *jers* is less unambigous. It is characteristic, however, that in several words of CS origin without suffixes, or with suffixes which became unproductive in historical time, most Sl languages exhibit length. Among these are:

P *pająk* 'spider', Sk *pavúk*, Cz *pavouk*, SC *pȁūk* – cf. Bg *pájək*, Sn *pâjok* (R *paúk* with shifted stress);
P *jastrząb* 'hawk', Cz *jestřáb*, SC *jȁstrēb* – cf. R *jástreb*, Sn *jâstreb* (Sk *jastrab* deviating);
P *miesiąc* 'moon', Sk *mesiac*, Cz *měsíc*, SC *mȅsēc* – cf. R *mésjac*, Sn *mệsec*;
P *zając* 'hare', Cz *zajíc* – cf. R *zájac* (SC *zêc* inconclusive because of contraction; Sk *zajac* deviating).

The more stress shifts a word has the more often irregular forms occur with brevity. E.g. the correspondences to R *gólub'* 'pigeon' (Cf. stress shift in *golúbka*, fem) are P *gołąb*, SC *gȍlūb* but Sk, Cz *holub*; to R *désjat'* 'ten', P *dziesięć*, Sk *desať*, Cz *deset*, SC *dȅset*, all with brevity. This applies even more to suffixes. Most adj suffixes generalized the short vowels (*-av-*, *-ěn-*, *-in-*, *-it-*, *-iv-*, etc.), e.g. SC *gȑbav* 'humpbacked', *mȍždanī* 'cerebral', *sèstrin* 'sister's', *kȁmenit* 'stony', *govòrljiv* 'talkative', etc.; but in subst suffixes length prevails, e.g. in Cz *-ář*, *-ák*, *-ík*, *-ín*, *-ýř*, *-oun*, *-án*, etc., in SC *-ar*, *-ak*, *-ik*, *-un*, *-aj*, *-ad*, with vacillations in *-ić*; e.g. Cz *novinář* 'journalist', *rodák* 'native', *nožík* 'knife' (dim), *čeledník* 'servants' hall', *pastýř* 'shepherd', *hrboun* 'hunchback', *Amerikán* 'American'; SC *lèkār* 'physician', *lùdāk* 'fool', *râdnīk* 'worker', *glàdūn* 'fop', *ȍbičāj* 'custom', *jȁgnjād* 'sheep', etc.[12].

In the 3 pl of verbs the length was generalized, spreading from the verbs in which it was postaccentual (Cf. R *píšut* 'write', 3 pl) and those in which it was pretonic (paradigms with final stress, e.g. R *berút* 'take', 3 pl – cf. U forms *beremó*, 1 pl, *bereté*, 2 pl, SC *berémo*, *beréte*, on the basis of which 3 pl **berǫtь* is to be reconstructed), e.g. P *rzeżą* 'cut', Sk *režú*, Cz *řeží*, SC *rȅžū* (Sn *držẹ́* 'hold').

The following conclusions may be drawn from an examination of the material concerning length in polysyllabic (trisyllabic) words:

a) Length was shortened in all syllables under stress. The presence of a *jer* in the next syllable did not prevent shortening.

b) Pre-pretonic and postaccentual lengths were also shortened, but not if followed by a *jer* in the next syllable.

c) Pretonic length generally was preserved, with certain vacillations or deviations, probably of analogical origin, in some suffixed subst.

The situation was similar to that in disyllabic words: in both cases there was a strong tendency to shorten vowels under stress and to preserve length in the

[12] The examples with suffixes are cited without regard to original stress place in any specific word.

pretonic syllable. The "extra-syllables" of polysyllabic words, as compared with the disyllabic, that is pre-pretonic and postaccentual but not final, generally tended toward shortening unless lengths were preserved or restored under the impact of a *jer* in the following syllable.

Thus, it was the pretonic syllable which turned out to be the last stronghold of length.

6. Chronology. No early records of Sl made by the Slavs or by other peoples denote Sl prosodic features: pitch, quantity, and stress; or at best they do not denote them comprehensibly and reliably. The last reservation concerns the KFr if the diacritical marks of that text are regarded as denotating prosodic features (which is doubtful). The oldest direct and relatively reliable denotation of length begins in the fourteenth century (for Cz). Therefore, one cannot expect the chronology of shortenings of long vowels to be reflected in any written texts.

Nor do borrowings from or into Sl shed much light. Most contemporaneous adjacent languages which may be taken into consideration had no distinctive quantity in their vowel systems: Gr and Rm were not sensitive to the length of Sl vowels. OPr (as well as Hung) distinguished length, but marking of length in OPr records is inconsistent. The stressed syllables in Sl loan words (like OPr *rūkai* 'dress' from Sl *ruxo*) are to be disregarded because in this position OPr length may be a substitute for Sl stress. With this precaution OPr furnishes no data on length in polysyllabic words of Sl origin. As for disyllabics, OPr *sūndan* 'punishment' and *grīkas* 'sin' from *sǫdъ* 'trial, court' and *grěxъ* 'sin' (Cf. R *sud* : *sudá*, *grex* : *grexá*) may confirm the preservation of length in pretonic syllables.

Hung data are more numerous, but rendition of Sl length in Hung is not quite consistent. If, for instance, length in *család* 'family', *császár* 'emperor' (Sl *čeljadь*, *cěsarjь*) is considered as evidence of length preservation in Sl trisyllabic words in postaccentual position before a *jer*, *burján* 'weed' would suggest the same for stressed or pretonic position (if the length is based on Sl oblique cases, in which it was pretonic). Length in *dézsa* 'tun' (Sk *dieža*) may be used as an indication of retention of length in the pretonic position in disyllabic words; but length is also found in *eszkába* 'staple' (SChSl *skoba*), where Sl never had it. For Fe see section 7.

Because of these difficulties more reliable clues may be gleaned from the relative chronology. The most important unquestionable indication is supplied by the splits of *◦ā̆* into *ŏ* and *ā* and of *·ā̆* into *e/o* and *ě*. The shortening of long vowels could have taken place only subsequent to these splits; otherwise, e.g., **mūx◦ā* would be not *muxa* 'fly' but +*muxo*. In other words, the stages of development were

**múx◦ā* > **múxā* > *múxă*

and not

**múx◦ā* > +*múx◦ă* > +*múxo*.

As *◦ar*C groups under original FP gave *ro*C in P, Cz and Sk (except Ce Sk),

while in SSl and CeSk they yielded *ra*C, it is usually concluded that shortening of the vowel in these groups in the NW took place prior to the metathesis of $_o$*ar*C groups, and in the SW after it.

In relation to the loss of *jers* two kinds of shortenings are to be distinguished. Shortenings of stressed vowels are independent of the original presence and subsequent loss of *jers* in the next syllable. On the other hand, vowels in pre-pretonic and postaccentual syllables were not shortened if there was a *jer* in the next syllable. This leads to the conclusion that the second type of shortening characterized a later period, when *jers* were being lost or at least were losing their stressability. True, one must also reckon with the possibility that in this position the length was first lost and then reintroduced as a compensation for the loss of *jers*. But as the span of time between the two phenomena (if they operated separately and successively) was at any rate insignificant, this possibility may be ignored.

With these data of relative chronology translated into terms of centuries, one reaches the conclusion that the shortenings could not have occurred before the middle of the ninth century and that the bulk of them apparently fell into the late ninth to early tenth century. Theoretically, they could have continued to occur in certain positions for several more centuries. But the development of new lengths brought about by prosodic mutations (See 33,1), a process which to a great extent canceled the effects of the shortenings and impeded further shortenings, makes the scholar place most of the shortenings in a relatively short period not exceeding a century, but without suggesting that they were concurrent in all positions.

7. Area. As the examples cited in sections 2–5 show, the shortening of long vowels in the positions examined is demonstrable for P with Ka, Sk, Cz, and SC, and occasionally also for Sn. Most vowel shortenings in this area were common, but with two important differences: the pretonic length in disyllabic words was retained under RP everywhere, under FP only in SC (originally also in Sn); and, in subsequent development, all stressed lengths under RP were shortened in SC, while in Sk and Cz the shortening affected vowels under FP. Whatever the local differences, the combined area in which the shortenings are unambiguously attested covers a stretch from the Adriatic littoral to the Baltic shore, leaving aside Pb, So and partly Sn to the west, R, Br, U, Bg and M to the east and south.

The question naturally arises whether and to what extent the shortenings of long vowels encompassed that large part of the Sl territory for which there is no direct evidence. *Argumentum ex silentio* is not an argument to prove that the dialects of these areas experienced the shortenings, nor that they did not. One has to resort to indirect evidence.

Sn data allow a positive conclusion only in regard to final length in disyllabic words, cf. the forms like *meglà* 'fog', *gubà* 'fold'. Otherwise the length under stress (*úlica* 'street', *lopáta* 'spade'), or under the shifted stress (*tetíva* 'bow string') can be either original or secondary (Cf. *žéna* 'woman' < *žěná*).

In Pb certain underlying quantitative relationships may be deduced from the stress shifts. CS final stress is preserved if preceded by original brevity but retracted if preceded by length, e.g. *våknű* (wakní) 'window' < *ok(ъ)nò*, *rebrű* (rebrj) 'rib' < *rebrò* vs. *gńózdə* (gginnyòsda) 'nest' < *gnězdò*, *mói̯tə* (mäute) 'duty' < *mytò*, etc. This proves that OPb, like other Sl languages, distinguished length in the pretonic syllable of disyllabic words. The distinction of length in the initial syllable of polysyllabic words under stress was eliminated in OPb, as is evident from such forms as *motéxă* (motêchga) 'stepmother' < *mát(j)exa*, *joblűńă* (goplínia) 'apple tree' < *jáblonja*: in Pb the stress advanced onto the next syllable if previously it had fallen on a short vowel or a vowel with FP. Also medial postaccentual syllables in trisyllabic words probably lost their length, since the initial stress was shifted over it onto the last syllable: *d'ölǫbái̯* (tgelumbay) 'pigeons' < *gòlǫbi*. Thus, although a detailed reconstruction of all types of shortening is hardly possible for OPb, it may be stated that in the main OPb shared the development with the Central Sl languages.

For So there is only the sparse evidence of US. It seems to show that US did not shorten long vowels in the pretonic syllables of disyllabic words (*žrěbě* 'foal' – cf. U *žerebjá*), nor under RP stress (*brěza* 'birch tree' – cf. R *berëza*): in pretonic and pre-pretonic syllables of polysyllabic words (*brězan* 'black grouse' < **berzánŭ*; *brěmjenjaty* 'burdened' < **bermenjátŭ*; *chlódnota* 'cold' < **xol-dŭnotá*): nor under stress in polysyllabic words (*brězyna* 'birch grove', cf. U *berézyna*). This would suggest that So did not undergo shortening of long vowels. The material concerning polysyllabic words, however, is not very reliable. All the words in question have reflexes of length in their basic forms: *brěza* 'birch tree', *brěmjo* 'burden', *chłód* 'shade'. From these words the reflex of length could easily have been extended to their derivatives.

M allows no inference at all as to the original quantitative relationships. As for Bg, its stress advancement from short vowels and vowels with FP onto the next syllable in disyllabic words (e.g. *okó* 'eye' – cf. R *óko*; *mesó* 'meat' – cf. R *mjáso*, vs. *máslo* 'butter', with RP) may show that length under stressed FP in disyllabic words may have undergone a shortening which Bg would have shared with P, Sk, and Cz: P *mięso*, Sk *mäso*, Cz *maso* vs. SC *mêso*. Pb and Sn share this stress shift with Bg (Pb *mǫsű* [mangsi], Sn *mesộ*) but do not limit it to disyllabic words (for stress shift from short vowels cf. Pb *d'ölǫ̋b* [tgelumb] 'pigeon', Sn *golộb* vs. Bg *gələb*: for stress shift from FP cf. Sn *devêr* 'brother-in-law' vs. Bg *déver*, SC *dȅvēr*; Sn *gradôvi* nom pl of *grâd* 'castle'; *drevệsa*, nom pl of *drẹvộ* 'tree' vs. Bg *grad* : *grádove* ~ *gradové*, but not +*gradóve*: *dərvó* : *dərvesá*). This suggests that the shortening of stressed length under FP in disyllabic words in Bg may have occurred prior to the shortening in polysyllabic words. It is possible that the latter never took place in Bg, the distribution of lengths being taken over by a new principle of automatic connection between the length and the stress, as is typical of Mo Bg (But see 33,17).

The time of the stress advancement in disyllabic words of the above type may be established for Bg, Sn and probably Pb in relation to the evolution of *jers*. The stress shift must have occurred after the *jers* had lost their stressability.

Otherwise, in all disyllabic words ending in a *jer* and having brevity or FP in the first syllable, *jer* would have taken over the stress, which would have brought complete confusion of the types *nosъ* : *nosa* 'nose', with root stress, and *volъ* : *vola* 'ox', with final stress. This is not the case, as is well known: Bg distinguishes *nos* : *nosə́t* from *vol* : *vólət*, Sn *nôs* from *vòl*[13].

In R, Br, and U there are no facts whatsoever to suggest that these languages also went through the wave of shortenings of long vowels as established for P, Sk, Cz, and SC and partly for Pb, Sn, and Bg. In the modern R, Br, and U languages length is a concomitant of stress. For the older period the only evidence is that of the early borrowings from Sl into Fi, Le and Li, the adjacent languages which distinguished quantity in their own vowel systems. The oldest loan words in these languages indicate the original distribution of quantity in Sl, reflecting, e.g. *₀ă* as *a*, *₀ā* as *ā*. In this respect Fi *tappara* 'hatchet', Est *tapper* from Proto-R **t₀ap₀aru* (R *topór*) is matched with Fi *raamattu* 'the Bible', Est *raamat*, Li *grõmata* 'letter', Le *grãmata* 'book', from **gr₀ām₀at₀ā* (R *grámota* 'writ'), the first accurately rendering brevity with brevity, the second length with length, although the words are trisyllabic and had conditions favorable to shortening of length. Cf. also Fi *piirakka* 'pie', from Sl (R *piróg*, gen *pirogá*). Kar *siivatta* 'domestic animal' – R *živót*, gen *životá* 'belly', Li *nedēle* 'week' – R *nedélja*, etc. But there are no traces of such an intermediate stage with positional shortenings: in later borrowings it is R stress which is rendered as length: Est *roosk* 'whip', Fi *ruoska* < R *rózga* 'birch rod'. Thus one must infer that ESl hardly ever had a shortening of long vowels as described in sections 2-5 of this chapter. The dialects of this area obviously shortened all unstressed long vowels while lengthening all stressed short vowels[14]. This was tantamount to the elimination of phonemic quantity. The material of Sl-Merja linguistic contacts in the reaches of the Oka shows that ESl of the area did not have long vowels except under stress at the time when it still preserved its *jers* (Vasmer).

In conclusion, in regard to the shortening of long vowels two main areas must be singled out in Sl: in the stretch cutting across the Sl area from the Adriatic to the Baltic Sea the chief tendency was to shorten stressed, prepretonic and postaccentual vowels unless the length was supported or restored by other factors, first of all by the loss of stressability of *jers* and the loss of the *jers* themselves (See 29,7; 33,3–5); in the Eastern area the trend was to preserve length under stress and to eliminate it in unstressed positions. Pb, Sn and Bg, judging by the meager material available, were peripheral languages of the

[13] See 29, 7. The common character of the shift in Sn and Bg may be attributed to the contiguity of the Proto-Sn and the Proto-Bg tribes in what is now Hungary before it was conquered by the Hungarians. Nothing prevents the assumption that the same stress shift occured also in Cz, which would bridge the gap separating Sn from Pb. Of course, this is completely conjectural and is not confirmed directly by the facts of Cz.

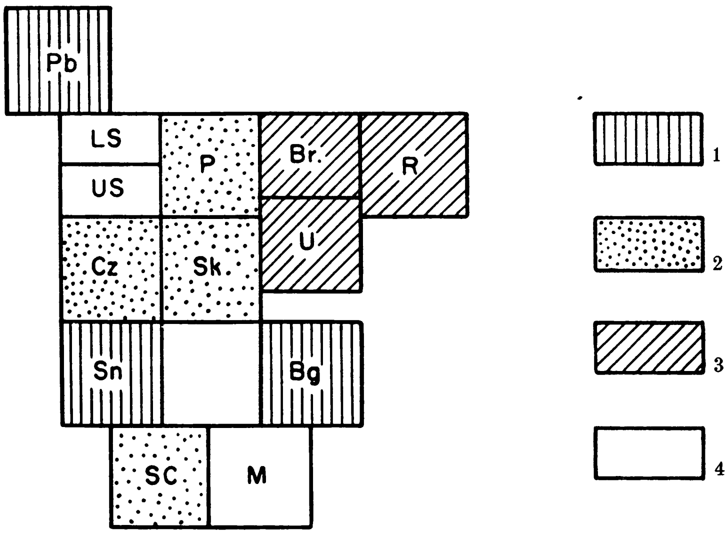
[14] On the possibility that in pretonic syllables length was also generalized see 33,17.

first area: they had shortenings of the same type but apparently not of the same scope. Evidence is lacking for So and M.

Diagrammatically:

Diagram 5

Positional shortenings of long vowels in the Slavic languages



1. Languages with shortenings in stressed, pre-pretonic and postaccentual positions partially carried out.
2. Languages with shortenings of the preceding type consistently carried out.
3. Languages with shortenings in unstressed positions.
4. Languages with no evidence for shortenings.

8. New lengths from contractions. In many positions soon after the elimination of length as discussed above new length developed from the contraction of vowels originally separated by *j*, particularly in the Adro-Baltic expanse. A typical example of such a contraction is the word represented in R, Br, U and Bg by the form *pójas* 'belt'. Vacillations are found in Sn *pojâs* ~ *pâs*, SC *pȍjās* ~ *pâs*; other Sl languages have contracted forms: P, LS, US *pas*, Sk, Cz *pás*. A phonetic prerequisite for this as well as other contractions was a weakened articulation of intervocalic *j*.

In judging the character of contractions in various parts of Sl, it is important to distinguish contractions prompted by morphological factors, those morpho-

logically irrelevant and, finally, those destructive to the morphological system of the language. They may be labeled morphologically conditioned, morphologically irrelevant and morphologically undesirable, respectively. Only the contractions of the second and third type undoubtedly are phonologically conditioned. Typical examples of morphologically conditioned contractions are those in the pres tense of third class verbs and in the compound adjectival declension.

There was an interplay between third class verbs in their pres-tense conjugation and the athematic verbs. While resembling each other in the inf, e.g. OCS *pytati* 'ask' and *dati* 'give', they differed in the pres: *pytaemъ* vs. *damъ*, 1 pl. Contraction of *aje* into *ā* transformed a partial resemblance into a kind of identity (although in *pytati a* was a suffix, in *dati* a part of the root). Hence forms of the type P, LS, US *pyta* (3 sg), Sk *pýta*, Cz *ptá* (*se*), Sn *pîta*, SC *pîtā*, Bg *píta* vs. uncontracted forms preserved in R *pytáet*, Br, U *pytáje*.

In the compound adj declension contractions were favored by its interplay with the pronominal declension. Although parallelling one another in type of endings, they differed in the number of syllables, e.g. OCS *togo* 'that', gen sg, with disyllabic ending (synchronically) vs. *dobraego* 'good', with a trisyllabic ending; or *těmь*, instr sg, with a disyllabic ending vs. *dobryimь*, trisyllabic. No Sl language retained this extra syllable throughout the whole declension, and only R and Br kept it in some forms (e.g. nom sg fem *dóbraja*). The method of elimination was different, however. ESl as a rule merely introduced the pronominal endings without resorting to contractions: gen sg masc/neut *dobraego* was not contracted either to *dobrago* (as in OCS) or to *dobrego* (as in P), but took the ending *-ogo* from the pron: R *dóbrogo*, Br *dóbraha*, U *dóbroho* like *togo*. Even in the case of the group *-y*(*j*)*i-* one can hardly speak of a contraction, e.g. in the instr sg masc-neut OR *dobryimь* becoming R, Br, U *dóbrym* (in the pronominal declension OR *těmь*), but rather of a special type of morphological analogy[15]. In all other Sl languages contractions swept through the whole paradigm, once having found morphological support.

An example of a morphologically undesirable contraction is that of (OCS) *moja* 'my' (fem). Its contraction into *má* (Cz) broke its ties with masc **mojь* (Cz *můj*) and, thus, irregularized the paradigm of this pron. Of all the Sl languages this contraction was carried out only in Cz (P *ma* occasionally used along with *moja* is bookish and a learned borrowing from Cz).

Contractions of identical or articulatorily close vowels were phonetically easiest. They are found in the following groups:

-aja-: US *kać so* 'repent', Cz *káti se* vs. R *kájat'sja*, Br *kájacca*, U *kájatysja*, P *kajać się*, LS *kajaś se*, Sk *kajat' sa*, Sn *kájati* 'reprove', SC *kȁjati* 'avenge', M *kae se*, Bg *kája se*. Cf. also US *bać* 'tell', *krać* 'cut', *tać* 'melt', *trać* 'last'; Cz *láti* 'bell', *táti* 'melt'. In Cz *bájiti* 'tell tales', *krájeti* 'cut' the group was restored

[15] In U nom sg neut of the type *dóbre* may possibly be deduced from the contraction of an older *dobroe* though this is not likely. The minutiae of this complicated question belong to the historic morphology of U.

under the pressure of the morphological system. The forms of impf OCS *plakaaxъ* 'weep' were also subject to contractions;

-ejě: (SSl *-eję*): gen sg fem of (OCS) *našь* 'our': Cz *naší*, Sn *náše*, SC *nȁšē* vs. R *nášej*, Br *nášaj*, U *nášoji*, P *naszej*, LS, US *našeje*, Sk *našej*;

-ěje-: P *śmiesz* 'dare' (2 sg), US *směš*, Sk *smieš*, Cz *smíš*, SC *smêš* vs. R *sméeš'*, Br *sméeš*, U *smíješ*, LS *smějoš*, Sn *smệješ* ~ *smệš*, M *smeeš*, Bg *sméeš*;

-ojǫ: P *sobą* 'oneself' (instr), LS, US *sobu*, Cz *sebou* (OCz *sebú*), SC *sȍbōm* (with *-m* added) vs. R *sobój(u)*, Br *sabój*, U *sobóju*, Sk *sebou* (with *j* lost but the vowels not contracted), Sn *sebọ́j*.

Some groups occur only in endings of the compound adj declension: *-ǫjǫ* (acc sg fem: Cz *dobrú*), *-iji-* (instr pl, "soft" type: Cz *pěšími* 'pedestrian'), *-yji-* (same, "hard" type: Cz *dobrými*). Their contractions are conditioned primarily morphologically in this category of words.

Of the groups containing heterogeneous vowels the following underwent contractions:

-oja- (*-oa-*): while in *pojasъ* cited above the contraction was not hindered by morphological factors, in other cases it was certainly not favored by them: P *bać się* 'be afraid' (NP *bojać się*), Sk *bát' sa* but *bojazlivý* 'timid', Cz *báti se* and *bázlivý* vs. R *boját'sja*, Br *bajácca*, U *bojátysja*, LS *bojaś se*, US *bojeć so*, Sn *bojáti se*, SC *bòjati se*, M *boi se*, Bg *bojá se*. Cf. also Cz *Jan* 'John' < *Ioan-*.

-ěja-: P *siać* 'sow', LS *saś*, US *sać*, Sk *siat'*, Cz *setí* 'sowing' vs. R *séjat'*, Br *séjac'*, U *síjaty*, Sn *sẹjáti*, SC *sȇjati*, M *see*, Bg *séja*. Cf. also P *chwiać* 'sway', *wiać* 'blow', *lać* 'pour', *smiać się* 'laugh'; LS *chwjaś*, *wjaś* 'winnow', *laś*, *smjaś se*; US *chwěć so* 'shudder', *wěć*, *leć*, *smjeć so*; Sk *chviet' sa*, *viat'*, *liat'*, *smiat' sa*; Cz *chvěti*, *váti*, *smáti se*. The cited examples, all verbs, have been heavily affected by morphological leveling (interplay of the types OCS *grěti* : *grějǫ* 'warm up' and *sějati* : *sějǫ* 'sow'. Cf. in OCS itself the inf doublets *sějati* and *sěti*). The group *-ěja-* often underwent contraction also in forms of the impf of the type OCS *běaxъ* 'I was'.

-oje-: Cz *mé* 'my' (neut), *mého*, gen sg masc-neut, *dvé* 'two', *vévoda* 'voivode' vs. no contractions in any other Sl language, e. g. P *moje*, *mojego*, *dwoje*, *wojewoda*.

-ojě: Cz *té* 'that', gen sg fem, Sn *té*, SC *tê* vs. R, Br *toj*, U *tóji*; cf. P *tej*, LS, US *teje*, Sk *tej*.

-ejǫ: P *naszą* 'our', instr sg fem, Cz *naší* (with *-í* < *-ú*), Sn *nášo*, SC *nȁšōm* vs. R *nášej(u)*, Br *nášaj(u)*, U *nášoju*, LS *našeju*, US *našej(u)*, Sk *našou* (with *j* lost but no contraction).

-ojǫ: P *tą* 'this', instr sg fem, Cz *tou* (< *tú*), Sn *tọ́*, SC *tôm* vs. R, Br *toj(u)*, U *tóju* (and *tijéju*), LS *teju*, US *tej*, Sk *tou*; *mojǫ* 'my', acc sg fem, where the morphological resistence was stronger, was contracted in Cz alone: *mú*.

-aje-: occurs in verbs of the type P *pytasz* as quoted above and in adj (gen sg masc neut *dobrajego*) and is represented in all Sl languages except ESl.

-aję-: Sn *zȇc* (and *zȃjec*) 'hare', SC *zêc* vs. R, Br *zújac*, U *zájec'*, P *zając*, US, Sk *zajac*, Cz *zajíc*, M *zajak*, Bg *záek*.

-ija-: US *přećel* 'friend', Sk *priatel'*, Cz *přítel* vs. R *prijátel'*, Br *prýjacel'*, U *prýjatel'*, P *przyjaciel*, LS *pśijaśel*, Sn *prijȃtelj*, SC *prȉjatelj*, M *prijatel*, Bg *prijátel*; Sk *liat'* 'pour' as cited above.

The groups *-ije-* and *yje-* occur in the adj declension, so that they contract everywhere except in ESl.

This survey may be summarized as follows:

In the endings of the compound adj declension all except the ESl languages contracted;

in the pres tense of verbs of the types *směti* and *pytati*, all the Sl languages contracted except ESl and, in the *směti* type, LS and partly Sn;

in infinitives of the type *lajati*, contractions are limited to US and Cz; in inf of the type *směјati sę* US and Cz are joined by P, LS, and Sk;

in the pronominal declension, contractions occurred in P, Sn, SC, limitedly in So, and most frequently in Cz;

in isolated words contractions were quite regular in Cz, and are occasionally observed in P (SP) and Sk; only the contraction in *pojasъ* had a wider area.

It may be added that in Cz the contractions occurred also at word boundaries. At least for prepositions with a following initial vowel this is reflected in OCz spellings of the type *k óku* 'to the eye' (*ō* < *ə* + *ŏ*), *s uočí* 'from the eyes' (*uo* < *ō* < *ə* + *ŏ*), *k ápostolóm* 'to the apostles' (*ā* < *ə* + *ă*), etc. These contextual contractions were not retained.

Thus, the center of the contractions lay in Cz, its peripheral area on the one side in So, SP and Sk, on the other in Sn and SC. M and Bg had only a few morphologically conditioned contractions, ESl had virtually no contractions at all. While the shortenings of long vowels discussed in the preceding sections were concentrated in the Adro-Baltic stretch, the contractions of vowels took place mainly in its central part.

Contractions of various types occurred at various times, some of those which were conditioned morphologically appearing much later, after the disintegration of CS. E.g. in P the present status of verbs of the type *znać* : *znam* 'know' had not yet been reached as late as the sixteenth century. Yet all contractions occurred after the basic shortenings of long vowels were carried out. Therefore the new lengths resulting from contractions did not undergo shortening. The long vowels were reintroduced in many positions.

Certain chronological clues may be uncovered by an examination of vowel groups with a *jer* as the first component, which were not treated above. In some Sl languages contractions in these groups preceded the fall of *jers*, in others the uncontracted groups persisted till the *jers* were lost. Where contractions antedated the fall of *jers* the vowel following the *jer* has been lengthened. E.g. **rolьja* 'arable land' gave in OP *rolá*, OCz *rolí* (Cz *role*). Where no contraction took place prior to the loss of *jers*, the latter affected the preceding vowel (if any): U *rilljá*. Forms like LS, US *rola*, Sk *rol'a* are ambiguous, but the lack of alterations in the vowel of the preceding syllable (*o*) suggests an earlier contraction.

Cz preserves direct evidence of contractions of *jers* with the vowel in the next syllable, as occurred in the suffixes *-ství*, *-ení* ~ *-ání*: *ředitelství* 'management', *krmení* 'feeding', *poznání* 'cognizance' – cf. OCS *otьčьstvь(j)e* 'homeland', *znanь(j)e*, 'knowledge'. P forms of the type *wejście* 'entrance', Cz *příští* 'coming', bear witness to the same effect. The form *wejście* goes back to *vъšьstvь(j)e*; had the last *jer* still been there at the time of the loss of *jers*, the middle *jer* would have become strong and the word would be **wsieśće* (cf. R *šestvie* 'train', with *-ie* restored under ChSl influence); because the last *jer* was no longer there, having been contracted with *-e*, the middle *jer* was weak and consequently was

lost, while the first one was strong and yielded *e*. The same applies to Cz *příšti*.

The length of the final vowel in the nom sg masc of adj in both Sk and Cz may be explained only by a contraction preceding not only the loss of *jers* but even the reduction of weak *jers*: **dobrў + jə* by contraction yielded *dobrý*; otherwise, if normal development of both *jers* is assumed, one would arrive at *+dobry* from **dobrўjə* through *+dobryj*, with, in addition, unmotivated loss of the final *-j*. This applies also to Cz *strýc* 'uncle' from **strўjьcь*.

In SC, Čak seems to have had a contraction of the type resulting in long vowels, such as *spáńī* 'sleep', *kȁmenī* 'rocks', *bogȁstvō* 'wealth'[16], while standard SC did not have any contractions here prior to the loss of *jers*, hence SC *kàmēnje*, *bògatstvo*. The evidence concerning Sn and So is, unfortunately, inconclusive[17]. On the grounds of the change of intonation in Sn, e.g. *znȃnje* 'knowledge' as compared to *znáti* 'know', one would assume that ь of *znanь(j)e* was retained till the time of the general fall of weak *jers* (See 33,5 d). But the shift of intonation could also have stemmed from the shift of stress (Cf. SC *znánje*).

Thus, contractions of *jers* with a following vowel originally separated from it by *j* are established for P, Cz, and Čak, the absence of such contractions before the loss of *jers* for ESl and Štok. Basically the area of these contractions before the loss of *jers* seems to be about the same as that of the other contractions: the heart of the Adro-Baltic expanse, but one cannot establish more precise boundaries.

The ESl languages, which did not have contractions of any type, used another technique for getting rid of a vowel after *j*: omitting it as long as it was unstressed, e.g. in the endings R *molodój* 'young', gen sg fem, from *molodoję̌*, *vesnój* 'spring', instr sg, from *vesnóju*, etc.; in internal syllables the situation is not so clear, but cf. R *xajló* 'mouth' < **xajalo* (based on *xájat'* 'blemish'), *stójlo* 'stall' < **stojalo*, etc. This treatment is in line with the ESl bond between length and stress.

9. Conditions and effects. It was shown in 29, 13 and again in section 1 of this chapter that by the time of the loss of *jers* conditions in Sl were ready for the loss of phonemic opposition in quantity. The single system of vowels was broken into two loosely connected subsystems: that of the long vowels and that of the short vowels. Appearing almost nowhere as the only distinctive feature, length was becoming redundant. The series of shortenings of long vowels as examined in sections 2–5 was a history of length being abandoned in one position after another, unless supported by some special factor (reaction to the loss of weak *jers*). This was the response of the language to the newly emerged redundancy of length in vowels.

[16] A blending of the suffixes *-stvo* and **-stvē* or **-stvī* < *-stvь(j)e*, having its length from the latter.

[17] Unless one considers the absence of *-j* in the endings of the nom sg masc of adj (LS, US *dobry*, Sn *dọ́bri*) to be a proof of contraction. However, this would secure contraction only in this particular case, not in all others.

Such a series of developments following one another fairly rapidly, and abolishing length in one position after another, meant a radical change in the very structure of Sl, which hitherto, since its rise from IE, was a language with a musical stress pattern and a well established system of intonations. No changes of this type had occurred in the whole preceding history of Sl. Characteristically enough, positions which admitted length were subsequently abandoned depending on their relation to the stressed syllable (except for the shortening of final vowels, which was not bound to stress). None of the preceding sound changes in Sl had stress conditioning, so that it was an innovation in this respect, too. Obviously stress, which so far had played a subordinate role, far less important than quantity and pitch, was now gaining in prominence.

An interesting point is that the pretonic syllable proved to be the most conservative in preserving length in the Adro-Baltic dialects of Sl. Theoretically, one would guess that, with stress becoming more important, the opposition in length would have been most tenacious precisely under stress, as it is in Mo Sn. That it was not, shows that Sl pronunciation habits of the time required that "strengthened" articulation begin not within the stressed syllable but on the approach to it: in the pretonic syllable[18]. But this may find its justification also in the accentual system of the Sl dialects of the time. Under the new conditions the stressed syllable was marked clearly enough even without length. It was in the pretonic syllable that this distinction was both important and tenable: important because the opposition in stress by definition could not apply to these syllables; and tenable because they did not undergo relative slackening, which obviously was becoming a characteristic feature of other pretonic syllables as well as postaccentual.

Thus pretonic syllables became the last stronghold of the opposition in length. The general trend towards complete abandonment of quantity was to be fully implemented in ESl. In that part of Sl, however, which was labeled in this chapter the Adro-Baltic area, other forces were at work, checking the decline of opposition in quantity.

One of these factors was vowel contraction. Some others preceded, some were to follow (See 33,17). Contractions, although they did not affect many morphemes, made themselves important in some of them, first of all in endings of the adj compound declension. In many cases it was only they that secured the opposition between the nominal and the compound adj (e.g. *dobra* vs. *dobrā* 'good', fem); in others they kept alive oppositions between subst and adj (e.g. *zъla* 'evil', gen sg of the subst *zъlo* vs. *zъlā* 'evil', nom sg fem of adj). Due to contractions, the oppositions in length were restored primarily in final syllables but to a lesser extent also in other positions, both stressed and unstressed. What was especially important was that, owing to contractions, the pairs of vowels opposed in length alone were reintroduced: along with *e* there was now *ē*, along with *o*, *ō*, etc.

[18] As though the rising structure of single vowels typical of the preceding period were now stretched onto two syllables. Cf. the situation in Mo R in its Moscow variant, where a strong reduction of vowels is not allowed in pretonic syllables.

The peculiar fact is that contractions worked hand in hand with the shortennings, which also introduced new oppositions in length. Along with *ā* appeared, as in (P) *jagoda* the new *ă*; along with *ī* a new *ĭ* (not identical with *ь* which had arisen from the original *ĭ*), as in (R) *tišiná*, etc. From this point of view shortenings were, as often happens in language history, a development with intrinsically contradictory effects. The shortening resulted from a tendency to abolish lengths, and did so in a great many instances. But while abolishing them in a number of cases, by the same token it ushered in new oppositions in length. What was gained in the language as a sum of messages was lost in the language as a system.

The same contradictions are observed in the effects of contractions. Contractions as such in all probability were due to the growth of dynamic stress and to the diminishing importance of the syllable as a unit. With the reconstruction of Sl into a "consonantal-type" language, the merger of syllables was no longer resisted as it was in a language of the "vocalic" type. In their immediate effect, however, contractions brought about new oppositions in length, and this contributed to the preservation of at least one of the earmarks of a "vocalic-type" language: opposition in quantity of vowels.

Thus, Sl arrived at a turning point. A path was to be chosen, either to go farther toward a "consonantal-type" language or to cling to the type of language represented by CS. Identical developments were working in both directions, rebuilding partially what they destroyed. Various dialects chose various paths, but very few followed through systematically. This was the beginning of the typological split within Sl, with the whole wealth of intermediary, transitional and mutually contradictory developments (if taken diachronically) or features (if considered synchronically).

As of now no Sl language has preserved pitch distinctions in unstressed syllables. The loss of this distinction was initiated by the shortening of long vowels as examined in this chapter. The abolition of length in a certain position meant the destruction of pitch distinctions in this position as well. The treatment of pretonic syllables proved to be, in this respect, crucial for the further evolution of the Sl prosodic systems. In P, Sk, Cz, and probably So FP in this position also underwent shortening (type *rǫka*), which meant that RP became identified with length and phonemically dissolved in the latter. This was the end of pitch distinction in unstressed syllables and heralded the loss of phonemic pitch, which subsequently took place in this area.

In SC (and possibly Sn) length has been preserved as a rule in pretonic position under both RP and FP. This means that the distinction of pitch in this position could have been, and probably was, maintained somewhat longer. It was an important factor in prolonging pitch opposition in these languages. As is well known, SC (dialectally) and Sn have preserved it up to the present, though only under stress and very much modified (See 33,17).

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33. METATONY

1. The notion of metatony. 2. Identification of NRP and NFP. 3. Monosyllabics with loss of final stressed jer. 4. Treatment of vowels in the last syllable of gen pl forms. 5. Metatony in connection with suffixes in nouns (before a lost *jer*). 6. Metatony in the instr sg of *ā*-stems. 7. Metatony in the nom pl of neut subst. 8. Metatony on final vowels. 9. Metatony in compound adjectives. 10. Problem of metatony in the comparative. 11. Metatony in verbs: present tense. 12. Remarks on metatony in other verbal forms. 13. Problem of metatony before *j* and other resonants. 14. Causes and nature of metatony: summary. 15. Area. 16. Chronology. 17. Conditions and effects. Appendix.

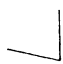
1. Along with the rise of new lengths from contractions, another reshuffling of the Sl prosodic system took place, of a broader scope, involving shifts in stress, or stress and length, or stress and length and pitch. In all or some of the Sl languages which preserve distinctive intonation or its traces, these shifts were identified as two new intonations labeled by Rozwadowski the new acute and the new circumflex, to be denoted in this book as NRP and NFP (new rising pitch and new falling pitch). He called whole phenomenon of their rise and all the changes associated with it metatony. This was a specific application of a term launched in a more general meaning by de Saussure.

Although the term in its strict sense (change of one intonation into another) does not cover the whole variety of prosodic changes involved, nor render correctly the essence of the most typical features, it is retained here as a conventional term to denote the entirety of phonetically conditioned changes – other than shortening of long vowels and lengthenings due to contractions – in the prosodic systems of the Sl dialects after the disintegration of CS but before the final breakdown into the separate Sl languages in their modern distribution. In this sense metatony is a collective term embracing a series of partially homogeneous, partially heterogeneous changes in the inventory and distribution of pitch and length, as well as some stress shifts, not necessarily identical in the various Sl dialects (For specifications see section 16).

The original idea of metatony as a pitch mutation resulting in the appearance of the two new intonations was a typical product of the Neogrammarian approach. Later studies which collected more facts and applied other methods disavowed this Neogrammarian idea and led to denial of the CS character of NFP and, with less unanimity, also of NRP. Since there is no general consent, however, in many problems of what is called metatony, it will be expedient to start the examination of facts with this idea in order to establish to what extent it applies to the facts of the Sl languages, if at all. Such a survey, regardless of whether it would lead to the confirmation or rejection of the Neogrammarian view, either as a whole or in part, would be useful in that it would

show the redistribution of CS prosodic features in the historically attested Sl languages. For this reason, in the present chapter the neogrammarian notions of NRP and NFP are taken as the point of departure, the material is analyzed, category after category, in the light of these notions and only then is an attempt at a revision of the entire concept undertaken.

2. Identification of NRP and NFP. Because metatonic changes are most marked in those Sl languages or dialects which preserve distinctive (phonemic) pitch, namely SC and Sn, the most efficient point of departure in studying metatony is to establish how the so-called NRP and NFP are reflected there and what their counterparts are, if any, in the other Sl languages. For the identification of NRP the SC dialects which reflect NRP on lengths as a special type of accent are decisive: Čak; the Štok dialects of SE Slavonia north of the Sava (with a small enclave south of the Sava, near Orasje) and NE Slavonia south of the Drava (area of Črnkovci – Šaptinovac); and the Kajk dialects in the neighborhood of Zagreb. This special type of accent is traditionally denoted ˊ for Čak and ˜ for the other dialects involved[1]. SC dialectologists describe this stress as first even and then abruptly rising:

 or  (Belić),  (Ivšić).

Standard SC has no special accent as a continuation of NRP. On long vowels the NRP is represented by ˆ, on short its counterpart is ˵. Corresponding to Čak *kráļ* 'king', *kóń* 'horse', SD[2] *krãļ*, *kõń* (Siče, Magića Mala[3]) SC has *krâlj*, *kȍnj* (in alternation with *králja*, *kònja*, gen sg). In Sn the reflexes of NRP coalesced with those of RP, but with the difference that the reflexes of NRP did not undergo shortening, nor shift onto the next syllable: *králj*, gen sg *králja* (the latter with Sn transference of the final stress to the preceding syllable with concomitant length[ening], cf. the old RP in *bràt* : *bráta* 'brother'), *kónj*, gen pl (vs no NRP in *kònj*, nom sg : *kónja*, gen sg).

P with Ka (most manifestly Snc), Sk and Cz reflect NRP as length which was not shortened: Snc *krőu̯l*, P *król*, Sk *kráľ*, Cz *král*; Sk *kôň* (Snc *kőu̯n*, Cz *kůň* may have lengthening for other reasons, because of the loss of final -ъ. See 29,8). R permits the identification of NRP in pleophonic groups: NRP is responsible for the switch from *ólo* (*óro*, *ére*, *éle*) stress to *oló* (*oró*, *eré*, *elé*), cf. *golová* 'head' : *gólovu*, acc sg but *golóv*, gen pl. Br has the same stress place for NRP: *halavá* : *halów*. U has the stress shift and in some cases a change of *o*, *e* into *i*: *holová* :

[1] Čak does not have the retracted stress of rising character denoted by ˊ in standard SC, so that no ambiguity arises; but some Štok and Kajk dialects do have it, and the mark ˊ cannot be used to denote their reflex of NRP.

[2] SD henceforth refers to the dialects of Slavonia near the Sava or the Drava.

[3] ~ in *koń* is due to its position before a sonant.

hólovu : *holív*. In the case of *o* many R dialects have *ô* where there was NRP ([ọ] ~ [u̯o], often denoted also as ω). These dialects are scattered but numerous in the NR area, particularly in its eastern part, e.g. near Tot'ma in the Vologda region, the village of Pyščug in the Kostroma region, etc. but a few islands of such pronunciation are known in the SR area, too, probably due to settlements from the north (provinces of Rjazan', Kaluga, Voronež, Belgorod). Instances of *ô* are especially well described in the dialect of Leka (SE of Moscow) by Šaxmatov in 1913 and more recently by Vysotskij (1945). All these dialects henceforth will be called summarily Leka-type dialects. In standard R the traces of this *ô* in initial position are preserved in several words as *o* preceded by a prothetic *v-*: *vótčina* 'patrimonial estate', *vósem'* 'eight'. Bg points to NRP by failing to advance stress onto the article in otherwise monosyllabic masculines: *kral* : *králjat*, *kon* : *kónjat*. Sporadically Pb and US have traces of NRP in some reflexes of lengths.

As for the posited NFP, its reflexes are nowhere distinguished from the reflexes of FP (̂ in SC and Sn, brevity in OP, Sk and Cz, advanced stress on the article in Bg monosyllabic masc subst), except that they appear on the vowels which are otherwise characterized by RP, e.g. SC *vrânā*, gen pl of *vrȁna* 'crow', Sn *vrân*, from *vrána*, Cz *vran*, from *vrána*. In Sn the old FP is subject to advancement onto the next syllable, but not NFP: *glavộ* 'head' (acc sg) vs. *dvîgne* 'lift', 3 sg, not +*dvignê*. Sk, where (unlike Cz) length under stress in the first syllable of disyllabics was shortened, merged the *vrana* and *hlava* types, so that both have length in the gen pl: *vrán*, *hláv*. The same distribution is found in Snc: *vãrnă* : *vãrn* (and *vãrĕn*), gen pl. A peculiarity of short vowels which had NFP in Ka and Snc is that they do not lose their stressability (as otherwise brevities do). Other Sl languages do not contribute to the identification of NFP.

The reflexes of NRP and NFP as described above are often represented in some words or word categories in some Sl languages while missing in others. These differences are important for understanding the real nature of what are conventionally called NRP and NFP. It is expedient, therefore, to examine each category separately, paying particular attention, within the categories, to the differences in treatment of long and short vowels.

3. Monosyllabics with loss of final stressed *jer*. This group consists of the following main types: nom sg of masc subst and adj (SC *krâlj* 'king', *cȓn* 'black'); poss pron in nom sg masc (SC *môj* 'my'); nom sg of fem subst ending in a consonant (SC *pêt* 'five'); instr and loc sg masc and neut of pronouns (Čak *ńín*, *ńén*, of *ón*, *onȍ* 'he, it'). The gen pl, which also belongs here, will be discussed separately because of certain peculiarities (See section 4).

In the categories enumerated, NRP is represented on the original length (with FP) in all the languages capable of showing it, e.g., in masc subst, Čak *súd*: *sūdȁ* 'court' – Snc *sõu̯d*, P *sąd*, Sk *súd*, Cz *soud*, Sn *sọ́d*, SC *sûd* : *súda*, Bg *sə̀dət*. See also Čak *kút* 'corner', *plášć* 'cloak', *gríh* 'sin', *pút* 'time', *kl̥úč* 'key', *gáj* 'grove', *kríž* 'cross', *lúč* 'splinter', *plást* 'layer', *smíh* 'laughter'; SC *bîk* 'ox'

(but Čak *bȉk*), *štȋt* 'shield', *prȗd* 'sandbank', *prȋšt* 'boil', *pȗp* 'bud'; Sk *piest* 'pestle', etc. Occasional vacillations and discrepancies among various Sl languages usually go back to differences in stress place, e.g. Čak *trúd* : *trūdȁ* 'effort', SC *trȗd* : *trúda*, Bg *trúdət* have NRP while it is lacking in the other languages: Snc *trȗd*, Sk, Cz *trud*, Sn *trȗd*; Čak *hrást* : *hrāstȁ* 'oak', Snc *xrőu̯st* 'brushwood', P *chróst*, Sn *hrást* 'oak' (but *hrȃst* 'brushwood') vs. Sk *chrasť*, Cz *chrast*, R *xvórost*. For fluctuation in stress place cf. U *trúdu* ~ *trudá*, gen sg.

In fem subst the type with final stress is virtually lost, except for the numerals from 'five' to 'ten'. Of these length in a monosyllabic word is represented in (OCS) *pętь* 'five'. However, NRP is not found in this word unless SC *pêt* with ambiguous ̑ is taken as an indication of it disregarding Čak and SD *pêt* and other Sl languages with reflexes of FP: P *pięć*, Sk *päť*, Cz *pět*, Sn *pệt*. Traces of the type with final stress may be assumed in Čak forms like *drăgóst* 'grace', *lŭdóst* 'stupidity', etc., SC *drágōst*, etc., but other Sl languages do not point to the same conclusion, cf. e.g. Sn *dragộst*.

Masc adj (in their nominal form) follow the same principle as masc subst. But in a great many cases the relationships are blurred by the reciprocal influences of various types of adj, e.g. SD *žût* : *žúto*, 'yellow', neut, standard SC *žût* : *žúto* but Čak *žût* : *žûto*. Most examples are ambiguous because the syllable is closed by a resonant, and in this position in Čak every brevity (̏) changes into ́. Cf. Čak *bél* : *bēlȍ* 'white', but standard SC *bȅo* : *bélo* and, on the other hand, Sn *bẹ́l* : *bẹ́lo*.

With original brevities NRP as a special accent for reflexes of NRP (́, ̃) as a rule is not found in the SC dialects unless a resonant follows; neither do standard SC and Sn have such special reflexes of NRP, as shown in 29,7. In the case of *o*, but not *e* and *jers*, regular reflexes of NRP are found in Sk and R Leka-type dialects. Some traces of the expected lengthening might be uncovered in Cz, but they are buried among the lengthenings brought about by the general loss of *jers*. This situation may be seen in such examples as R Leka *pôst* 'fast', Sk *pôst*; Cz in this particular case also has lengthening: *půst*, but P *post*, Sn *pòst* : *pósta*, SC *pôst* : *pȍsta* (as in *bôg* : *bȍga*, with original root stress), Čak *pȍst* : *postȁ*. For further examples see SC *kȍš* 'basket', *vȍđ* 'leader', *glȍg* 'hawthorn', *dvôr* 'palace', *bȍb* 'bean', *pȍp* 'priest', *snȍp* 'sheaf', *kȍnj* 'horse', *stô* 'table', *vô* 'ox', *ôn* 'he', *môj* 'my' (with typical ̏ and lengthenings before resonants); Sk *bôr* 'pine tree', *kôl* 'stake', etc. For *e* cf. Čak *ńén* (< *nemь*, loc sg of *ón* 'he'), Sn *njém*, Cz *něm*. The roots which have reflexes of *jers* usually do not bear traces of NRP, e.g. SC *pȁs* : *psȁ* 'dog', Čak *pȁs* : *pasȁ*, Sn *pès* : *psà*, Bg *pésət*, Sk, Cz *pes* (See 29,7).

In SSl, apparently, there are only isolated instances of NRP as such on brevities: SC *nôž* : *nóža* 'knife', Čak *nóž* : *nōžȁ*, SD *nõž* : *nóža* as compared with R Leka, Sk *nôž*, Cz *nůž* (but Sn *nòž* : *nóža*); Sn *jéž* 'hedgehog', SC *jêž* : *jéža* (but Sk, Cz *jež*). They indicate the possibility that SSl also had NRP on brevities, at least in some phonetic environments (See section 16). But a more plausible assumption is that one is dealing here with occasional adaptations to the widespread pattern of words with original final stress, later NRP.

Thus, in monosyllabics other than the gen pl of subst which had stressed the final *jer* (subsequently lost), the traces of NRP are fairly well preserved on old lengths with original FP: in R, Br, U (in the case of pleophony); in P with Ka (most clearly in the case of nasal vowels), and in Sk and Cz as lengths; in Sn as lengths with RP; in standard SC as lengths with FP; and in dialects of SC as lengths with a special type of rising pitch. In the same type of words traces of NRP are found on *o* in R dialects and Sk, unsystematically in Cz; and on both *o* and *e* in a few isolated words in Sn and SC while otherwise SC has ̏.

4. Treatment of vowels in the last syllable of the gen pl forms. In monosyllabic forms of the gen pl with the original ending -ъ or -ь NRP occurs fairly systematically in SC dialects, in standard SC, and in Sn both on lenghts which had FP and on brevities. Čak has for instance *rūkȁ* : *rúk* 'hand', *ženȁ* : *žén* 'woman', *kozȁ* : *kóz* 'goat', *vlâs* : *vlás* 'hair'; also on reflexes of *jers* : *dnȍ* : *dán* 'bottom'. SD has *rūkȁ* : *rũk*, *ženȁ* : *žẽn*. Standard SC has the expected ˆ (ʹ, if the stress is shifted), e.g. *gláva* : *glâvu*, acc sg : *gláv*(*ā*), *žèna* : *žènu* : *žén*(*ā*). Sn has *gláva* : *glavộ* : *gláv*, *žéna* : *ženộ* : *žén*, *lâs* : *lás* 'hair'.

If the root vowel goes back to a long vowel with RP, FP (i.e. NFP) is substituted, e.g. Čak *jȁma* : *jâm* 'pit', *vrȁna* : *vrân* 'crow'; SD *rȉba* : *rīb*(*ā*) 'fish', *vrȁna* : *vrân*(*ā*). Standard SC has the same interplay of intonations and Sn correspondingly changes *jáma*, *vrána*, *ríba* into *jâm*, *vrân*, *rîb*.

Neither NRP nor NFP in SC and Sn are limited to monosyllabic subst alone, cf. Čak *propēlȍ* : *propél* 'crucifix' with NRP, *besȅda* : *besêd* with NFP. In some polysyllabic words, however, NFP is not retained on the final syllable of the gen pl: the stress is shifted as ̏ onto the preceding syllable, while the length of the vowel in the final syllable still points to its lengthening under former NFP: *plȁninȁ* : *plȁnīn* 'mountain' vs. *kolȅno* : *kolên* 'knee'. Standard SC has this type in even more words, e.g. *kòleno* : *kȍlēnā*, *jèzik* : *jȅzīkā* 'tongue'. In Sn the latter phenomenon is unknown; NFP occurs in the gen pl of polysyllabic subst according to the same principles as in monosyllabics, e.g. *planína* : *planîn*, *kolẹ́no* : *kolệ̂n*; but NRP does not substitute for ˆ, which is preserved throughout the whole paradigm. It does occur, however, on the ending of the gen pl *-ov* if it bears stress: *grâd* : *gradọ́v* 'castle'.

In this respect Cz goes even farther: it has no reflexes of NRP even in monosyllabic words, so that only FP reflexes are represented in Cz: the reflex of FP is preserved if appearing in other forms of the same word, the reflexes of NFP occur if other forms bear reflexes of RP. Practically, it means that brevity (the normal reflex of FP in Cz) is generalized in the gen pl, e.g. *jáma* : *jam*, *vrána* : *vran* as well as *hlava* : *hlav*, *žena* : *žen*, *beseda* : *besed*, *peníze* : *peněz* 'money'. It is only the *-ů* ending (< *-ův* < *-ōv* < *-ovъ*) which has length, because of its isolation in the system; and some subst (with original RP and mostly seldom used in the pl) characterized by length in their basic form preserve this length in the gen pl, e.g. *bříza* : *bříz* 'birch tree', *líha* : *líh* 'plot', *míza* : *míz* 'sap'.

The opposite situation marks R, Br and Sk. They distinguish reflexes of

NRP but have no trace of NFP. In R and Br this can be seen in a stress shift in the pleophonic groups which originally had FP, whereas there is no shift in those which had RP, e.g. R *golová* : *gólovu*, acc sg: *golóv*, Br *halów* but *voróna* : *vorón* (with NFP it should be +*vóron*). R dialects of the Leka type show the same development in the character of their *o*: *galôf*, *varôt* 'gate'; cf. the ending *-ov*: *gadôf* 'years'. Sk has lengthening under NRP, which it generalized so that practically all forms of the gen pl with zero ending have length: *jama* : *jám*, *vrana* : *vrán* and also *hlava* : *hláv*, *žena* : *žien*, *beseda* : *besied*.

U and P present a type of development which stands between the Cz type on the one hand (no reflexes of NRP) and R, Br and Sk on the other (generalization of the reflexes of NRP). U has generalized the accentual pattern of NRP and RP but distinguishes, in the pleophonic groups, words with NRP (that is with original FP) by changing *o* to *i* in these words: *holová* : *hólovu* : *holív*, *dolotó* : *dolít* 'chisel' vs. *voróna* : *vorón*, *meréža* : *meréž* 'net', with a weak tendency to spread *i* beyond its original limits: *koróva* : *korív* 'cow', *doróha* : *doríh* 'road', *bolóto* : *bolít* 'marsh'. P likewise has no traces of NFP; as for NRP, it is visible on nasal vowels and *o* (dialectally also *e*, *a*), e.g. *księga* : *ksiąg* 'book', *wstęga* : *wstąg* 'ribbon', *głowa* : *głów* 'head', *cnota* : *cnót* 'virtue', *kopa* : *kóp* 'threescore', *robota* : *robót* 'work', *cielę* : *cieląt* 'calf'; dial *lato* : *lát* 'year', etc. Snc, which probably shared this development with P, reshuffled the two kinds of forms, with and without lengthening, according to a new principle: it has lengthening before voiced consonants, e.g. *strŭ̀ₒnă* : *strŏu̯n* as well as *drŭ̀ₒgă* : *drŏu̯g*, but *lãtö* : *lãt* as well as *kŭ̀ₒsă* : *kŭ̀ₒs*, etc.

Other Sl languages furnish no evidence or at least none that is conclusive. In M and Bg the gen pl is lost along with the whole declension. Only the Bg (EBg) forms used after numerals with shifted stress (*godína* : (*dve*) *gódin* 'year', *stotína* : *stótin* 'hundred', *nedélja* : *nédeli* 'week' point possibly to the same stress advancement as in SC *kȍlēnā*, *jȅzīkā*. This would be an indication that Bg had had NFP in the gen pl forms. The records of Pb contain virtually no forms of the gen pl. Sorbian generalized the ending *-ow* (e.g. LS, US *ryba* : *rybow*, *słowo* : *słowow* 'word'); the rare zero ending involves no trace of any alternations in quantity.

Thus, for the lengthenings in the gen pl with zero ending the Sl area lends itself to the following grouping:

a) Languages with reflexes of NRP and NFP: Sn, SC and possibly OBg;

b) Languages with possible reflexes of NFP but not NRP: Cz;

c) Languages with reflexes of NRP but not NFP: R, Br, U, P, Sk. This group may be subdivided into those in which reflexes of NRP are immediately discernible, at least to some extent: U and P; and those in which they completely coalesced with the reflexes of old RP: R, Br, Sk. If exemplified by two words, one with the original FP (R *golová*) and another with the original RP (R *voróna*), the classification may be visualized in a table in which framing shows the presence of metatony and arrows indicate the direction of levelings by analogy, if any:

SC *glȃvu* (acc sg)	: *gláv(ā)*		*vrȁna*	:	*vrân(ā)*
Sn *glavǫ̑* (acc sg)	: *gláv*		*vrána*	:	*vrân*
Cz *hlava*	: *hlav*	←——	*vrána*	:	*vran*
Sk *hlava*	: *hláv*	——→	*vrana*	:	*vrán*
P *głowa*	: *głów*		*wrona*	:	*wron*
U *hólovu* (acc sg)	: *holív*		*voróna*	:	*vorón*
Br *halavá*	: *halów*	←——→	*varóna*	:	*varón*
R *gólovu* (acc sg)	: *golóv*	←——→	*voróna*	:	*vorón*

Metatony in the gen pl, whatever its scope in the individual dialects, differed from metatony in other monosyllabic words originally ending in a *jer* in that it apparently did not depend on stress place. It is only in the gen pl that NFP arose along with NRP locally. See section 14 for commentary.

5. Metatony in connection with suffixes in nouns (before a lost *jer*). In nouns with suffixes quite a few lengthenings occurred in the individual Sl languages, varying according to suffixes. It belongs to the histories and grammars of each of these languages to follow the development of this intricate pattern. Here only the most typical cases will be briefly examined with a minimum of examples, solely to allow an insight into the general tendencies which operated at the time of metatony.

a) Suffixes which were followed by a stressed *jer* (Type U *junák* : *junaká* 'youth'). The bulk of the material consists of words which are trisyllabic in the oblique cases and were trisyllabic in the nom sg before the loss of the *jers*. In these cases original brevity of the suffix vowel is as a rule preserved, e.g. SC *grábež* 'robbery', *métež* (but also *métēž*) 'bustle' (Sn *grâbež*, *krâdež* 'theft' are inconclusive). Original length with RP as a rule is represented as length. That it does not undergo shortening either in Sn or in Sk and Cz may be ascribed to the preservation of length in the pretonic position, but rather may be considered as NRP, e.g. SC *nòvāk* 'novice', *jùnāk* 'hero', Sn *novák*, *junák* (not +*novàk*, +*junàk*), Sk, Cz *novák* (arch), *junák*. Čak (Hvar) *buhuáč* 'rich man', *učeník* 'pupil', *gospodór* 'boss', *junók* 'hero', SD *petñãk*, type of vessel, directly attest to NRP, which in this case is in place of original RP. Suffixes of that structure with original length under FP are rare. To judge by SC *slȁdūn* 'pomegranate', Sk *behún* 'runner', Cz *běhoun* (but Sn *bęgûn* 'refugee'), NRP arose here.

b) Suffixes which began with a *jer* and were followed by a vowel other than a *jer* (type OCS *tetъka* 'aunt'). The facts are more consistent for those words in which the first syllable contained a vowel with FP. Its metatony into NRP may be assumed as a general rule for all the languages which are capable of reflecting intonations, e.g.:

Snc *lắu̯skă* 'hazel', Sk *lieska*, Cz *líska*, Sn *lẹ́ska*, SC *léska* – cf. U *líska*, Bg *leská*, – cf. Snc *lãs* 'forest', Sk, Cz *les*, Sn *lẹ̑s*, SC *lês* 'timber';

Snc *vlõuknö* 'fibre', P *włókno*, Sk, Cz, Sn, SC *vlákno*, – cf. Sk, Cz *vlak* 'train', Sn, SC *vlâk*;

cf. R *kórob* 'bast box' vs. *koróbka* 'box', Cz *hlava* 'head' vs. *hlávka*, dim (U *holová* : *holívka*), P *płótno* 'linen' (cited in full in 32,5e), etc.

NRP spread even to the suffix *-tv(a)*: P *klątwa* 'oath', OCz *klétva*, SC *klêtva*. The suffix, which contained no *jer*, was structurally associated with those which lost a *jer* (two-consonant pattern.). This is most clearly seen in Sk *kliatba*, where the reflex of NRP on the root vowel is combined with the substitution of *-b(a)*, that is *-ьb(a)*, for *-va*.

The opposite phenomenon, the rise of NFP on vowels with original RP, was limited to Sn, possibly also Sk and Cz, e.g.:

Sk, Cz *pravda* 'truth', Sn *prâvda* as compared to Sk, Cz *právo* 'right', SC *prävo*[4];

Sk, Cz *kavka* 'daw', Sn *kâvka* as compared to Li *kóvas*.

Cf. also SC *grǎška* 'pea' vs. *grǎh* 'peas' without any change of intonation as opposed to Cz *babka* vs. *bába* 'old woman', *kravka*, dim to *kráva* 'cow', etc. Cf. also SC (including Čak) *tȉkva*, *bȕkva*, *ȉnde*, *sȑce*, *jȁbuka* as cited in 32,5a. The Sk and Cz data are inconclusive because brevity may have developed as a result of trisyllabicity.

Finally, NRP on brevities in this category appears in R Leka-type dialects (*nôžka* 'foot', dim, *kôška* 'cat', *strôjka* 'construction') and in Sk (*nôžka* vs. *noha*, *žienka* vs. *žena* 'woman', *piecka* vs. *pec* 'stove'). In P the alternation *o* : *ó* as in other positions before a lost *jer*, depends on whether or not the following consonant was voiced: *noga* : *nóżka* but *socha* : *soszka* 'plough'; otherwise it follows the pattern of the gen pl. In Cz both *nožka* and *soška* are found, while the lengthened vowel may occur before resonants, e.g. *slůvko* vs. *slovo* 'word' (occasionally before other voiced consonants: *lůžko* vs. *lože* 'bed'), but in no apparent connection with the older pitch pattern. Neither Sn nor SC have reflexes of NRP: Sn *têtka* 'aunt', SC *tȅtka*; Sn *pẹ̑čka* vs. *pẹ̑č* 'stove', SC *pȅćka* vs. *pêć*.

In one group of words, however, the NRP on brevities (as well as on FP) may have been common Sl (albeit P deviates partially and the Sn facts are ambiguous). These are words which contained two syllables, both with short vowels or vowels with FP before a suffix beginning in a weak *jer*. The metatony here was apparently a concomitant of stress advancement from the first syllable:

With FP: R *desjátka* 'ten' (as a subst) vs. *désjat'* 'ten' (num), P *dziesiątka* : *dziesięć*, Sk *desiatka* : *desat'*, Cz *desítka* : *deset*, SC *dèsētka* : *dȅset*, Bg *desétka* : *déset*. Correspondingly Sn has *desẹ̑tka* but the contrast is marred by Sn stress advancement in *desẹ̑t* (< **dèset*), which, after all, may also underlie *desẹ̑tka*.

With brevity: R *večérnja* 'vespers' vs. *véčer* 'evening'; Sk *večierka* 'retreat': *večer*, Sn *večẹ̑rnja* : *večẹ̑r*, SC *vèčērnja* : *vȅčēr*, Bg *večérnja* : *véčer*;

R *osénnij* 'autumnal' : *ósen'* 'autumn', Sk *jesienka* 'meadow safron' : *jeseň*, Sn *jesẹ̑nka* 'autumn fleece' : *jesẹ̑n*, SC *jèsēnjī* 'autumnal' : *jȅsēn*.

[4] SC *prâvda*, Čak *právda* have their accents before a resonant (*v*) closing the syllable. Sn has *prâvo*, but its ˆ is recent, otherwise it would yield +*pravô*.

P and Cz do not have any alternations in the two latter words to illustrate lengthening in the medial position, but at least in Cz one finds *jezírko* : *jezero* 'lake', *olůvko* 'tooth filling' : *olovo* 'lead'. In Snc the alternation of vowels depends on stress shifts, but neither of the two forms reveals length: *vjìₑčór* 'evening' : *vječìₑřńică* 'evening star'.

A similar development is attested in words with no suffix but with a similar configuration of syllables, to wit in prefixed words with a weak *jer* in the medial position, i.e. as the root vowel. Its loss could have brought about NRP on the preceding syllable, i.e. on the prefix, e.g.:

R Leka *vôspa* 'smallpox', Sk *zámka* 'lock', Sk, Cz *zátka* 'plug', Sn *ǫ́spica* 'measles', *zámka* 'snare', *zátka* 'crossbar (in yoke)', *ǫ́žga* 'klin', SC *zâmka* 'snare'.

c) Suffixes which contained two successive *jers* (type of OCS *lovьсь* 'hunter'). In oblique cases the conditions were the same in words of this type as in those dealt with under (b); there was only a single, weak *jer* (e.g. gen sg *lovьca*). But the conditions were different in the nom sg, where the middle *jer* was strong. No Sl language, however, retained the opposition between the nom sg (where shortening of the long vowel is expected either under stress or in the pre-pretonic position, see 32,5) and the oblique cases, where there is a theoretical possibility of metatony and, consequently, of length. In the case of the *-ьсь* suffix Sk and Cz generalized the brevity of the nom sg: *kosec* 'mower' with original brevity, *slepec* 'blind man' with FP, Sk *starec*, Cz *stařec* 'old man' with original RP. SC preserves the original intonations in their usual reflexes, without any metatony: *kòsac*, *slépac*, *stärac*, Čak *kosäc*, *slīpäc*, *stärac*[5]. Metatony is found only in Sn: undoubtedly NFP on RP: *brâtec* 'brother', and probably NRP on FP and brevities: *kósec*, *slẹ́pec*.

The relationships are not necessarily identical in words with other suffixes containing two *jers*[6]. The preceding data only serve to show how far-reaching were the levelings and generalizations in this type of syllabic configuration.

d) Special remarks are necessary regarding subst which contained *ĭj* before a vowel, mostly, but not exclusively, collective and verbal nouns (types OCS *zelie* 'herbs', *znanie* 'knowledge', *sǫdii* 'judge'). As shown in 32,8, in P with Ka, Cz, Čak and probably So and Sk, these groups underwent contraction before the loss of *jers*. This resulted in a lengthening of the final vowel and precluded metatony in the preceding syllable[7]. For Sn and probably SC (Štok), where the contractions did not occur before the loss of *jers* metatony is theoretically to be expected. In fact, one finds NRP on FP and brevities, NFP on RP: Sn *zẹ́lje* 'cabbage', *prótje* 'switches', *znânje* 'knowledge'; SC *zêlje* 'vegetables', *prûće*,

[5] Gen sg *stârca*, Čak *stárca*, etc., shows secondary lengthening before a resonant.

[6] For example, in words with the suffix *-ъkъ* Sk and Cz in most cases generalized the metatonic forms: Sk *bielok* 'eggwhite', *klások* 'ear (of corn)', dim; Cz *bílek*, *klásek*, etc.

[7] Some Cz dialects, however, had a different order of changes: loss of *jers* and then contraction of the *ĭje* group, and consequently have length (NRP) on the root vowel, e. g. OCz *lístie* 'leafage', *dúbie* 'oak grove' vs. Mo Cz *listí, dubí*.

znánje (Cf. Sn *znáti* 'know', SC *znȁti*). For direct evidence of NRP see in SD dialects forms like *lȋšće* 'foliage', *prȗće*, etc.[8].

To summarize, NFP occurs instead of old RP in Sn in the types *tetъka*, *večerьnja*, *bratьcь* and *znanьje*[9], possibly also in Sk and Cz in the type *tetъka*. NRP in place of old FP is more widespread. It is attested in all the languages capable of displaying it in words of the types *běgunъ* and *tetъka*; in words of the type *znanьje* it appears in Sn and SC, in the words of the type *lovьcь* in Sn alone. Finally, NRP on brevities is probably common in words of the type *desętъka*, limited to R dialects and Sk in the type *tetъka*, to Sn in the type *bratьcь*, to Sn and SC in the type *znanьje*. In tabular form:

Type	On brevities	On old RP	On old FP
běgunъ	No change	NRP ?	NRP
tetъka	NRP: Leka, Sk	NFP: Sn and (?) Sk, Cz	NRP
bratьcь	NRP: Sn	NFP: Sn	NRP: Sn
znanьje	NRP: Sn, SC	NFP: Sn	NRP: Sn, SC

6. Metatony in the instr sg of *ā* stems. Fem subst in *-a* (*ā*-stems) with stable stress, i. e. with original RP have changed intonation in Sn in the instr sg: *síla* 'power' : *s sȋlo*, *ríba* 'fish' : *z rȋbo*, etc. As this intonation is falling and occurs in place of the original RP it is to be considered NFP. An apparently identical change of intonation may be found in Cz, with many deviations and fluctuations, but these would be an understandable result of levelings from other cases of the sg: *síla* : *silou*, *kráva* 'cow' : *kravou* (and *krávou*). The Cz shortening of vowels is ambiguous, however: it may be due to the fact that the otherwise disyllabic word used to become trisyllabic in the instr sg (Cf. OCS *sila* : *silojǫ*), and initial stressed syllables in trisyllabic words were liable to shortening (See 32,5a).

No other Sl language has any unambiguous traces of metatony in the instr sg. Under these circumstances it is to be considered a development limited to Sn and the contiguous Kajk dialects of SC (Kajk *krȃva* : *krȃvom*), possibly also Cz. In Sn it is usually ascribed to the contraction of the instr sg ending (*-ojǫ* > *ǫ* > *o*) and the transference of stress (assuming that the stress was final, as it is reconstructed for the instr sg fem of the pron *tъ* : *tojǫ́*; cf. Sn *róka* 'hand' : *rokó*, instr sg; SD *rukõm*); but it may be simply analogical, i. e. transferred from *i*-stems, where metatony was caused by the loss of *ь*: Sn *mìš* 'mouse' : *mȋšjo* (< *myšьjǫ*), *lúč* 'light' : *lȗčjo*.

7. Metatony in the nom pl of neut subst. In CS the nom pl of disyllabic neut subst was sharply distinguished from the nom sg not only by a separate ending, but in many cases by the shift of stress as well. Those subst which had FP or brevity on the penultimate syllable advanced the stress onto the ending in the nom pl, in accordance with Fortunatov's law; the opposite shift, that is retraction onto the root, developed morphologically in the individual Sl languages in those subst which stressed the endings in the sg, cf. R *télo* 'body' :

[8] In Čak forms with NRP also occur occasionally: *pérji* 'feathers', *vesélji* 'joy'; but they are due to the following resonant.

[9] The cases are illustrated by words with the corresponding syllabic configuration, but they disregard the pitch contour on the vowel.

telá, póle 'field' : *poljá* vs. *rebró* 'rib' : *rëbra* (as late as the sixteenth century still *rebró* : *rebrá*).

After the disintegration of CS a new contrast in intonation arose dialectally in the nom pl which opposed it even more strongly to the nom sg. Metatonies are found on both the ending and the root.

The metatony on the ending *-a* resulted in NRP. This is reflected directly in the SD dialects of SC and in Sk, residually also in Čak, e.g. Sk *mesto* 'town' : *mestá, rebro* 'rib' : *rebrá, bremeno* 'burden' : *bremená*; SD *räme* 'shoulder' : *ramenã, rebrȍ* : *rȅbrā*; Čak *mȅsto* 'place' : (*na*) *mestá, räme* : *ramená* (and *rämena*). Interestingly enough, in Hung, the non-Sl language which separates Sk from the SD dialects of SC, the final *-a* and *-e* of the sg undergo lengthening in pl forms: *alma* 'apple' : *almá-k, kefe* 'brush' : *kefé-k*. But the third Sl language of the area, Sn, has no direct traces of NRP on the nom pl ending : *drvà* '(fire)-wood', *tlà* 'floor', *dnà* 'bottoms' have a short vowel.

Instead, Sn makes extensive use of metatony in the root when forming the nom pl of neut subst. The SC dialects of the SD region, Čak, and Kajk partially follow the same pattern. Sn systematically has NFP on the original RP, e.g. *mẹ́sto* 'place' : *mẹ̑sta, rálo* 'plough' : *râla, kolẹ́no* 'knee' : *kolẹ̑na*; cf. Kajk *mêsta, kolēna*. Subst with FP and brevity usually retain the intonation of the sg, with a change in stress placement (*mesọ̑* 'flesh' : *mẹ̑sa, prosọ̑* 'millet' : *prôsa*), but a few still preserve the reflex of NRP. They do not shift the accent: *rébro* 'rib' : *rẹ́bra, bédro* 'thigh' : *bẹ́dra*, Kajk *rēbra* represent CS brevities; *védro* 'bucket' : *vẹ́dra*, pl tantum *vráta* 'gate', the old FP. Thus for OSn, including Kajk, both NFP on RP and NRP on FP and brevities may be posited. The latter has been lost in most instances, being redundant in the paradigms where stress shift distinguished the pl clearly enough from the sg[10].

Metatony on the root vowel is not so consistent in SC dialects outside of Kajk. Brevities are affected by it in Kajk alone: Čak *rebrȍ* : *rȅbra* (SD *rȅbrā*) vs. Kajk *rēbra, sēla* 'villages'. NRP occurs on the reflexes of original RP, but only if the stress is retracted: Čak *vīnȍ* 'wine' : *vína, lētȍ* 'chisel' (<*dleto*) : *léta*; SD *vīnā, dlītā*. Otherwise, i.e. without stress retraction, the reflex of the RP is invariably preserved, e.g. Čak *rȁlo* : *rȁla*. Finally, NRP is found on the reflexes of the old FP, but only residually, e.g. Čak pl tantum *ústa* 'mouth', *vráta* 'gate', *jétra* 'liver'. Otherwise the sg pitch pattern is generalized: Čak *mêso* : *mêsa*, SD *mêso* : *mésa* (not ˜). The SD dialects are the only ones in which the NRP occurs on both vowels, in the root and in the ending. But this situation is to be presumed also for early Čak because, as has been shown, in some subst it still has NRP on the endings and in others on the roots, and the mutual exclusion of the two is obviously the result of later simplification. One cannot be sure about Sn, which preserves length solely under stress and in which the stressed endings occur in the nom pl of only those subst neut with ≠ vowel in the root (type *tlà* as cited above). The brevity of the final vowel here may result from the specific situation.

10 As for ˆ on brevities (type *prôsa*), it is due to leveling within the stress-shifting paradigms and certainly is not the reflex of NFP.

In Sl languages and dialects other than those characterized – Sn and certain dialects of SC – the traces of metatony are scarce or nonexistant. For Cz it was suggested that doublets of the type *město* 'town' vs. *místo* 'place', *dělo* 'canon' vs. *dílo* 'work' indicate the split of an ertswhile single paradigm having RP under stress in the sg (*mẽsto, dẽlo*) and NFP in the pl (**mẽsta, *dẽla*, see the Sn pattern above). Actually, the difference in length cannot be accounted for by the difference in stress place (of the type R *mésto : mestá, délo : delá*), because this difference in Sl is of a more recent date. As late as the seventeenth century *mésta, déla* was the normal pl form in R. Rather the Cz difference in length may be attributed to a fluctuation between the preservation and loss of length under RP stress as they occurred in Cz area. In Snc a difference between the treatment of the root vowel in the sg and in the pl is found only in polysyllabic subst of the type *kȕₒlanö* 'knee' : *kolą̃nă*, *kȕₒrätö* 'trough' : *körãtă*. One may attempt to derive this difference from an alleged NFP in the nom pl, which would have precluded the stress shift attested in the sg. But the same relationships are observed in the type with medial brevity, as *řìₑšötö* 'sieve' : *řiₑšȕₒtă*, and in both cases rather reflect the spread of a morphologically embedded pattern. The same applies to R *dolotó* 'chisel' : *dolóta*, *molokó* 'milk' : *molóki* 'milt', which coincided in stress pattern with *rešetó : rešëta* and reflect the old RP rather than NRP.

Thus, the metatony in the nom pl of subst neut is geographically limited to Central Sl contiguous with Hung.

8. Metatony on final vowels. Besides the NRP on *-a* in the nom pl of subst neut as attested in Sk and, dialectally, SC, special metatonic (or metatony-like) developments are to be assumed for the final vowels of words which were monosyllabic by origin or became monosyllabic through the loss of a *jer* in the first syllable. These cases, typical of Sn and SC but possibly not alien to Sk and Cz as well, were treated preliminarily in 32, 3.

For disyllabic words which had a *jer* in their first (penultimate) syllable, phonetic lengthening with NFP is to be supposed on the final vowel, probably on the condition that the *jer* originally bore stress: **sŭtŏ* > Sn, SC *stô* 'hundred' (Cf. Li *šim̃tas*), and in the same way on originally long final vowels with RP: **dŭvā* becoming **dŭvă* because of the general shortening of final vowels but then lengthening *a* again, this time with NFP, i.e. *dvâ* 'two' (Sn and SC). The dependence on stress place may be seen in some aor forms: NFP occurs on those which have desinential stress in the pres. Since the aor in the 2 and 3 sg very often is characterized by the reverse stress pattern in comparison with the pres (SC pres *plètē* : aor *plȇte* 'weave', *trésē* : *trêse* 'shake', etc.), the desinential stress in the pres may be considered as an indication of the root stress in the aor, which in this case would point to stress on the *jer*: SC *zvâ* 'call', *brâ* 'take', *tkâ* 'weave' – cf. R pres *zovët, berët*, Bg *tъčé* vs. SC aor *htȅ* 'wish', *slȁ* 'send' as compared with the pres, R *xóčet*, SC *šȁljē*[11].

[11] In some of these verbs with FP the latter might have resulted from an older, still CS, pitch mutation due to morphological factors, the verbs being adopted to

Originally monosyllabic aor forms of the 2 and 3 sg in SC display the reflexes of both RP and FP, as would ordinarily be expected: *jȅ* from *jȅsti* 'eat', *čȕ* from *čȕti* 'hear', *klȁ* from *klȁti* 'prick', *vrȅ* from *vrȅti* 'boil' vs. *klê* from *kléti* 'curse', *mrê* from *mréti* 'die'. Yet other verbs have ˆ in these forms, which is not supported morphologically: *vî* from *vȉti* 'weave', *lî* from *lȉti* 'pour', *pî* from *pȉti* 'drink', etc.[12]. In more isolated monosyllabic words, where the distribution of intonations was not affected by morphological (paradigmatic) factors, length under FP is found consistently in both Sn and SC (examples in 32,3). As FP occurs here indiscriminately on the original FP (*tû*), on RP (*tî*), on brevity (*tô*) and even on reflexes of weak *jers* (Sn *tâ*, masc sg, from *tъ*), it is most logical to assume, as in 32,3, that after a general shortening all lengths in word-final position were reintroduced as FP in full-fledged monosyllabic words unless precluded morphologically. If so, there was no real metatony in this case, although the outcome of the entire development is the same as it would have been in the event of a genuine metatony. The newly developed FP (length) in monosyllabic words is now identical with NFP as developed in originally disyllabic words which had a (stressed) *jer* in the first syllable.

The chronological stratification of prosodic developments on final vowels of monosyllabic words, as suggested in 32,3 in terms of quantity alone, may be rearranged in terms of pitch as follows:

1) Shortening of final RP: *tý* > *tÿ̆*; *dъvā* > *dъvă*; *sъtŏ*; *tъ*;

2) Loss of stressability of *jers* and rise of NFP on the next syllable: *tÿ̆*; *dъvă* > *dъvâ*; *sъtŏ* > *sъtô*; *tъ*;

3) Lengthening (combined with FP) of final brevities in monosyllables that are full-fledged words (unless ˵ is retained or restored morphologically): *tÿ̆* > *tŷ*; *dvâ*; *stô*; *tъ* > *tə̂*[13].

A special case in the treatment of final vowels is represented in the endings of the instr pl in Snc and Sn, with some correspondences in CeSk and SCz dialects. As these vowels have length or its reflexes in these areas and are capable of receiving stress in Snc, NRP is to be posited: Snc *ksązmĩ* 'priest',

the pattern of conjugation with mobile stress. For SC *zvȁti*, *brȁti*, *tkȁti* this may be assumed on the basis of the R pret forms *zváli*, *bráli*, *tkáli*, pl, vs. *zvalá*, *bralá*, *tkalá*, fem sg. Analogous facts are found in Čak and elsewhere. The mutation was not limited to words with a root *jer*, cf. SC aor *dâ* from *dȁti* 'give', *bî* from *bȉti* 'be', R *dáli* : *dalá*, *být́li* : *bylá*, etc. See 4, 11 and, on the possibility of another explanation, 6, 3a.

[12] The opposition of 1 sg *pȉh* vs. 2 - 3 sg *pî* 'drink' was transferred in SC to longer verbs of the type *òrah* : *ōrā* 'plough' etc., i. e. length after ˵ on the root, a secondary regulation.

[13] In SČak (Hvar, Brač) and in those Štok dialects which preserved a special reflex of NRP (SD, Sumartin on Brač) the pronouns bear this accent: *tĩ*, *mĩ*, *vĩ*. However, this is limited to pron. Cf. *dvọ̑* - *dvĩ* 'two', *trĩ* in Čak of Brač, *dvã* in Sumartin. The reflex of NRP spread morphologically from *jã*, 1 sg, where it is justified phonetically (loss of -*zъ̀*), possibly with the support of such forms as *ną̃s*, *vą̃s*, etc. Cf. the same leveling but in the opposite direction in Štok of Hvar (Sućuraj), where *tî*, *mî*, *vî* retained the FP and extended it to the 1 sg: *jâ*.

křamī 'bush', *rąkamī* 'hand'; Sn *možmí* 'man', *lasmí* 'hair', *hrbtí* 'back', *grobmí* 'grave'; CeSk dial *chlapcí*'boy'; SCz dial *chlapý*, *z bící* 'whip', etc. This NRP could have first arisen in *-ъmi*, *-ьmi* endings, as a response to the loss of their *jers*, and then been generalized to *-y* and *-ami* endings.

9. Metatony in compound ajdectives. Metatony accompanied the formation of compound (pronominal) adj on the basis of their nominal forms (e. g. SC *stârī* vs. *stăr* 'old'). The reconstruction of the original relationships in the adj is impeded by the manifold analogies and levelings which took place in the subsequent history of the Sl languages. Originally there were, at least in some types of adj, differences in stress place and intonation among the forms within either type of adj, nominal or compound; and there were differences between the two types. Levelings proceeded in both directions: toward uniformity within each type, i.e. elimination of differences in the pitch pattern of various gender and case forms; and toward uniformity of both types. Withal, the separate patterns of stress and pitch influenced each other to a large extent.

As a result of the complicated interplay some Sl languages lost virtually all nom forms, except a few residual ones (U, P with Ka, So, Sk). Bg generalized stress on the root, again with the exception of a couple of adj. SC as a rule adapted neut to fem (e.g. *drága* : *drágo* 'dear' vs. R *dorogá* : *dórogo*) and in many cases abolished the contrast between the intonation of the masc forms in the compound and nominal declensions. No Sl language of our day has stress shifts or pitch alternations within the compound type.

In spite of these major simplifications and levelings, it is possible to reconstruct the original developments by establishing four basic patterns, in accordance with the character of the root vowel and stress place in the underlying nominal forms, though with a wide range of deviations in specific adj in the separate Sl languages. These four patterns, as represented by nominal forms, are:

a) Root-stressed adj with RP on the root vowel. Their stress was stable, as was to be expected: R *zdoróv* : *zdoróva* : *zdoróvo* 'healthy';

b) Root-stressed adj with FP on the root vowel. The stress was mobile following Fortunatov's law, e.g. R *tix* : *tixá* : *tíxo* 'still';

c) Root-stressed adj with short root vowel. Their stress also was mobile, e.g. R *nov* : *nová* : *nóvo* 'new';

d) Adj with desinential stress. The root vowel could be long, as in R *bel* : *belá* : *beló* 'white', or short as in R *ostër* : *ostrá* : *ostró* 'sharp'.

TYPE a. Compound adj of this type have NFP in Sn and some contiguous dialects of SC; Cz data are inconclusive: Cz has brevity which can reflect NFP or result from a shortening under stress (See 32,4). Other Sl languages retain the same stress place and pitch as the nominal forms, e.g.:

Sn *zdrâvi* (vs. *zdràv* : *zdráva*), NČak (Istria) *zdrâvī* (vs. *zdráv* : *zdrăva*); Cz *zdravý* (vs. *zdráv*) as compared with R, U *zdoróvyj*, SC *zdrăvī* (vs. *zdrăv* : *zdrăva*), also CeČak (Novī);

Sn *sîti* (vs. *sìt* : *sìta*) 'replete', Kajk *sîti*, NČak (Istria) *sîtī* (vs. *sȉt* : *sȉta*), Cz *sytý* (vs. *syt*) as compared with R, U *sýtyj* [14], SC *sȉtī* (vs. *sȉt* : *sȉta*), also Ce Čak.

Other adj which basically follow this pattern, albeit with many switches to other patterns in the individual Sl languages (interpretation of these switches falls into the histories of these languages), are, e.g. SC *čȉst* 'clean', *pȕn* 'full', *prȁv* 'straight', *rȕs* 'blond', *slȁb* 'weak', *xȉtar* 'swift', Sk *šerý* 'gray'.

Some adj which should belong to this type became involved in some areas in the pitch and stress scheme typical of the much more frequent FP pattern (See type b). Interestingly enough, these switches in the most cases are not concentrated in a single area, but are scattered in disconnected territories. This proves that these were spontaneous independent developments. A typical example of this is the adj (OCS) *malъ* 'small'. It has the expected forms reflecting the original RP in:

R *málуj* (but *malá* irregularly in the nominal form), Cz *malý*, Sn (also NČak) *mâli* but Br *malý*, U *malýj*, Snc *mȃu̯lï*, SC *mâlī* (vs. *mȁlo*), SČak (Hvar), SD *mãlī*.

The same geographical distribution is found in R *stáryj* 'old'. The area of deviating forms is reduced, by the exclusion of Br and U but Sn added, for the adj represented by R *ránnij* 'early' (Snc *rẽnnï*, Sn *ráni* vs. *rân*, *rána*, SC *rânī*, SČak (Hvar), SD *rãnī* vs. *rȁno*); by the exclusion of Br, U and SC but with the addition of Cz, for (R) *dólgij* 'long' (Snc *dlȗďï*, Cz *dlouhý*, Sn *dólgi* vs. *dôlg*, *dólga*); by the exclusion of Br, U, Cz and SC, for R *mílyj* 'dear' (Snc *mjȋlï*, Sn *míli* vs. *mîl*, *míla*); in SC alone *pȓvī* 'first' (SD *pȓvī* ~ *pȓvī*), *sîvī* vs. *sîv* 'gray' (Čak *sívī* vs. *sîv*); and in Čak, SD alone, *prãvī* vs. *prȁvo* 'right' (but cf. U *právyj* ~ *pravýj*).

Thus there are three main areas of such switches: they are most pronounced in SC, particularly Čak and SD, with marked repercussions in Sn, almost imperceptible in Cz; less pronounced in Snc; and least marked in Br and U.

TYPE b. Compound adj with root vowel that had FP. A twofold development characterized these adj: their compound forms as attested today either have stress on the root, with NRP, or they have desinential stress with brevity of the root vowel. Typical examples are, for instance:

R *krivój* vs. *krivá*, *krívo* 'curved', Br *kryvý*, U *kryvýj*, Snc *křävï*, Sk *krivý*, Cz *křivý* – all with stress shift – as compared with Sn *krívi* vs. *krîv*, *kríva*, *krivọ̑*; SC *krȋvī* vs. *krȉv*, *kríva*, Čak *krívī* vs. *krȉv*, *krīvȁ* – reflecting NRP;

R *krutój* vs. *krutá*, *krúto* 'steep', Br *krutý*, U *krutýj*, P *kręty*, Sk, Cz *krutý*, but Sn *króti* vs. *krọ̑t*, *krọ́ta* 'hard, violent', SC *krûtī* vs. *krût*, *krúta*;

R *dorogój* vs. *dorogá*, *dórogo* 'dear', Br *darahí*, U *dorohýj*, P *drogi*, Sk, Cz *drahý*, but Sn *drági* vs. *drâg*, *drága*, *dragọ̑*, SC *drâgī* vs. *drâg*, *drága*, Čak *drágī* vs. *drâg*, *drāgȁ*.

[14] The R fem nominal from *sytá* is secondary and constitutes one of the numerous instances of types b) and c) influencing a form in type a). Sk *sýty* shows a complete switch to the final stress type (pattern d).

These examples[15] imply a very simple geographical distribution: Sn and SC with NRP vs. the rest of the Sl languages with stress shift. In reality, however, the picture is by no means so regular for languages other than Sn and SC[16]. There are numerous deviations and, what is more important, fluctuations within the same language.

Along with the otherwise typical final stress initial stress is found in R *blédnyj* 'pale' (but U *blidýj*), *célyj* 'whole' (but U *cílyj* ~ *cilýj*), *glúpyj* 'silly', *górdyj* 'proud', *čërstvyj* 'stale' (but U *čerstvýj*), *lévyj* 'left' (but NU dial *livýj*), *múdryj* 'wise', *ljútyj* 'fierce', *pjátyj* 'fifth', *rúsyj* 'blond', *tíxij* 'still', *tvërdyj* 'hard' (but U *tverdýj*), *tólstyj* 'stout' (but family name *Tolstój*). The lack of stress shift implies that these words had NRP. This is verifiable in R, and ESl in general, only in the case of pleophony. And the few cases of pleophonic adj confirm this: R *polóvyj* 'yellow' (but Br *palavý*, U *polovýj*) as compared to Cz *plavý*, SC *plâv* 'blue'; U *solónyj* 'salty' (R *sólon*, *soloná*) as compared to Sk, Cz *slaný*, Sn, SC *slân*.

P, which is able to show deviations in roots with nasal vowels, actually has them in *mądry* 'wise' and *piąty* 'fifth' like R, and *skąpy* 'miser' in disagreement with R *skupój*, while *gęsty* 'thick', *święty* 'holy', *tępy* 'blunt' follow the expected pattern, with no NRP and original shift of stress onto the ending.

Cz points to NRP in *lítý* 'fierce', *moudrý* 'wise', *pátý* 'fifth', *přímý* 'straight', *skoupý* 'stingy', the first three in agreement with R. Sk shares this distribution, while adding *hlúpy* 'silly'.

The striking consistency of treatment in Sn and SC suggests that in this area NRP was the only response to the accretion of what was originally an enclitic pron with the nominal form of the adj. As for NSl, one has to assume a twofold treatment; different in masc from that in fem (the latter probably being identical with most oblique cases). In masc the enclitic pron made the stress advance: **krîvŭ+jĭ* > **krivŭ̀jĭ*. When *jers* lost their stressability, the stress returned to the root vowel, but this time with NRP: **krivъ̀jь* > *krĩvъjь*. In fem the stress of the nominal form was retained and no metatony ensued: *krivá* + *ja* > *krivája*. In the complex interplay of the two forms it was to a great extent a matter of chance which one prevailed in a given adj. Hence numerous doublets and distinctions between individual languages and dialects within a single language. See further section 14.

TYPE c. Compound adj with short root vowel, originally root stressed. The number of these adj was small. It is no wonder that the original distribution of intonation in the group is largely marred and that the group is

[15] For more examples (with occasional minor deviations in the individual languages) see R *slepój* 'blind', *molodój* 'young', *xudój* 'thin', *blagój* 'good', *tupój* 'blunt', *gluxój* 'deaf', *borzój* 'greyhound', *tugój* 'tight', *lixój* 'evil', *nagój* 'naked', *gustój* 'dense', *svjatój* 'holy'.

[16] In Sn there are virtually no deviations, except *tôpi* in relation to *tòp*, *tópa* 'blunt'. SC deviates in *tȉhī* vs. *tȉh*, *tȉha* 'still' and vacillates in *svȇtī* ~ *svètī* in relation to *svȇt*, *svéta* 'holy' and *tȗstī* ~ *tȕstī* in relation to *tȗst*, *tústa* ~ *tȕst*, *tȕsta* 'fat'. But these are just isolated switches to other adj types.

nowhere preserved intact. Most members of the group joined types a) or b). The original relationships may be restored, however, if fluctuations and dialectal facts are taken into account. Obviously, stress was shifted onto the ending in these adj, as can still be seen in Čak *novî* vs. *nȍv*, *novȁ* (and *nȍva*, as in neut) 'new', *bosî* 'barefoot' vs. *bôs* (^ as in *nôs* 'nose', see 29, 7), *bosȁ* (and *bȍsa*, as in neut), Štok dial (Dubrovnik) *bòsī*. P, Sk and Cz brevity shows that no metatony occurred on the root vowel and, thus, admits the possibility of the final stress as well: P *nowy*, *bosy*, Sk, Cz *nový*, *bosý*. ESl may have final stress, too: R *bosój*, U *novýj*, also R *prostój* 'simple', *xromój* 'lame'.

Yet more often than not a switch to types a) or b) is found. In Sn this switch is virtually complete; moreover, some facts interpreted differently in the preceding paragraph may be reinterpreted in the same way: after all, P, Sk and Cz brevity of the root vowel is not necessarily an indication of the original final stress, but may mean a switch to type b). This applies also to ESl forms with final stress, while ESl forms with root stress can point to type a). In this interpretation the type has been preserved in SC dialects alone and even there rather residually.

A few examples of this redistribution follow:

a) With predominant switch to type a): Br *prósty* 'simple', U *próstyj*, Cz *prostý*, Sn *prôsti* vs. *pròst*, *prósta*, SC *prȍstī* vs. *prȍst*, *prȍsta*. But R *prostój* may be a preservation of an older stage;

R *nóvyj*[17], Br *nóvy*, Cz *nový*, Sn *nôvi* vs. *nòv*, *nóva*, SC *nȍvī* vs. *nȍv*, *nȍva*. But U *novýj*, Kajk *nõvi*.

Cf. also SC *hrȍmī* 'lame', *strȍgī* 'severe'.

b) With predominant switch to type b): R *bosój* 'barefooted', Cz *bosý*, Sn *bósi* vs. *bộs*, *bósa*, SC *bôsī* vs. *bôs*, *bosa*. But Br *bósy*, U *bósyj*;

Cz *teplý* 'warm', Sn *tópli* vs. *tópel*, *tópla*. But R *tëplyj*, Br *cëply*, U *téplyj*, SC *tȍplī* vs. *tȍpao*, *tȍpla*.

Other adj with original short root vowel under stress are R *skóryj* 'fast', *ploxój* 'bad', represented in only some of the Sl languages.

The integrity and later the very identity of the intonational pattern in type c) were gradually lost. The gap between type c) and type a) was bridged by the similarity of the nominal forms of the masc and neut (*prȍst* like *zdrȁv*, *prȍsto* like *zdrȁvo*), to type b) by the similarity of the nominal forms in the fem (*prostȁ* like *krivȁ*).

TYPE d. Adjectives with original desinential stress. As a rule their root vowel was short, but there are several with a long root vowel: R *bélyj* 'white', *čërnyj* 'black', *žëltyj* 'yellow', *náglyj* 'impudent'. The results of the two groups are identical in ESl but different elsewhere.

In ESl the stress is retracted onto the root; judging from the Leka-type dialects, the retraction generated NRP, e.g. R *mókryj* vs. *mokr*, *mokrá*, *mokró* (now also *mókro*) 'wet', Br *mókry*, U *mókryj* – R Leka *môkraj*.

In the other Sl languages able to furnish evidence NRP is to be assumed

[17] The R Leka-type dial *nôvaj* apparently shows NRP as typical of some adj of type b) in R.

only on the original lengths, while brevities remained intact, with the stress shifted from the ending onto the root, e.g.:

a) lengths: Čak *bélī* vs. *bél*[18], *bēlȁ*, SC *bêlī* vs. *bȅo*, *béla*, Sn *bẹ́li* vs. *bẹ́l*, *bẹ́la*, Sk *biely*, Cz *bílý*, R *bélyj*;

Čak *čŕnī* vs. *čŕn*[18], *čr̄nȁ* 'black', SC *cȓnī* vs. *cȓn*, *cŕna*, Sn *čŕni* vs. *čŕn*, *čŕna*, Sk *čierny*, R *čërnyj*;

b) brevities: Čak *ȍštrī* vs. *ȍštār*, *oštrȁ* 'sharp', SC *ȍštrī* vs. *ȍštar*, *ȍštra*, Sn *óstri* vs. *ọ́ster*, *óstra*, Sk, Cz *ostrý*, R *óstryj* vs. *ost(ë)r*, *ostrá*, *ostró*, Leka *vôstraj*;

Čak *dȍbrī* vs. *dȍbār*, *dobrȁ*, SC *dȍbrī* vs. *dȍbar*, *dòbra*, Sn *dóbri* vs. *dóber*, *dóbra*, Sk, Cz *dobrý*, R *dóbryj*, Leka *dôbraj*.

The two patterns are followed, with minor deviations, for length by SC *nâglī* 'sudden', *žûtī* 'yellow', for brevity by SC *bȁdrī* 'cheerful', *gȍlī* 'naked', *mȍkrī* 'wet' (vs. Kajk *mõkri*, also *dõbri*), Sn *záli* 'evil'. In Čak, however, desinentially stressed doublets occur with brevities (*oštrî* along with *ȍštrī*, *dobrî* with *dȍbrī*) and in some cases prevail (*golî*, not +*gȍlī*). This may be explained as resulting from the influence exerted by type c). A more important deviation, and by no means limited to one group of dialects, is found in the ordinal numerals denoting 'sixth', 'seventh' and 'eighth'. Although their root vowel was short, in most Sl languages they follow the pattern for adj with long root vowel, i.e. they have NRP:

P *szósty*, *siódmy*, *ósmy*, Sk *šiesty*, *siedmy*, *ôsmy*, SC *šêstī*, *sêdmī*, *ôsmī*, Čak *šéstī*, *sédmī*, *ósmī*, SD *šẽstī*, *sẽdmī*, *õsmī*, Kajk *sẽdmi*, *õsmi*; the Sn forms *šẹ́sti*, *sẹ́dmi*, *ọ́smi* may point to NRP in view of the closeness of their root vowels. In ESl a typical mishmash of root and desinential stresses is found, which characterizes its type b), where it indicates NRP on the masc sg: R *šestój*, *sed'mój*, *vos'mój* vs. Br *šósty*, *sëmy*, *vós'my*, U *šóstyj*, *s'ómyj*, *vós'myj*. Finally, Cz has brevities, as it most often does in type b) as well: *šestý*, *sedmý*, *osmý*.

This is usually assumed to be due to the influence of numerals of the type **pętь*, which may explain the treatment in most languages: Br *šósty* like *pjáty*, U *šóstyj* like *pjátyj*, P *szósty* – *piąty*, Sk *šiesty* – *piaty*, Sn *šẹ́sti* – *pẹ́ti*, SC *šêstī* – *pêtī*, Čak *šéstī* – *pétī*; but is leaves unexplained the contrast between R *šestój* vs. *pjátyj* and Cz *šestý* vs. *pátý*[19]. The Cz forms *šestý*, *sedmý*, *osmý* at least do not disagree with the pattern *ostrý*, *dobrý*, *mokrý*, *holý*. But the R forms with final stress even contradict this pattern. In harmony with *óstryj*, *dóbryj*, etc. the forms with root stress would be expected in the ordinals. Meanwhile, the R forms neither follow the habitual stress distribution of that type of adj, nor did they join the pattern of the other ordinals. It is evident that R desinentially stressed forms of the *šestój* type cannot be an innovation. They may be confronted with Čak forms of the type *golî* to indicate that Sl had, at least dialectally, compound adj with final stress preserved on the ending, as in the nominal forms. In the light of this evidence the Sk, Cz and Sn facts may be reinterpreted as going back to older forms with final stress: Sk, Cz *ostrý*, Sn *óstri*, etc. SC forms of the type *ȍstrī*, then, appear to be ambiguous: they could

[18] Lengthening according to section 3.

[19] Not to mention the fact that the origin of *pátý* itself is not too clear. See the discussion of type b), above.

have resulted from an original stress shift, like R *óstryj*, etc.; or they could be later innovations based on nominal forms of the type *ȍštar*. The fact that ̏ is generalized for the fem and neut as well (*ȍštra, ȍštro* instead of the expected +*òštra*, +*òštro*) bespeaks the second possibility. The root stress of R *óstryj* etc. may have been brought about by the double influence of the masc nominal form and the type *bélyj*. If so, the original final stress has been retained only in ordinals of the *šestój* type, which is understandable, for there was no nominal form in use and the ties with the whole adjectival type are flimsy: isolated forms are the typical repository of archaic patterns[20].

Thus, against most facts represented in the Mo Sl languages, it is to be assumed that originally those adj with a short root vowel and final stress preserved final stress in their compound forms; retraction of the stress onto the root, with the concomitant rise of NRP, originally characterized only those adj with a long root vowel. Schematically:

ostrá : *ostrò*	vs.	**ostràja* : **ostròje*	
but *bělá* : *bělò*	vs.	*bẽlaja* : *bẽloje*.	

This means that the original treatment of all the compound adj with short root vowel was the same, whether they had root or desinential stress.

The developments in the various types of adj discussed may by illustrated and summarized as follows[21]:

a) RP, stressed	*zdráva* : *zdrávo*	vs.	*zdrávi/zdrâvi*	– RP preserved, dialectally NFP
b) FP	*dragá* : *drâgo*		*drãgi* : *dragá*	– NRP, partially final stress preserved
c) RP unstressed	*bělá* : *bělò*		*bẽli*	– NRP
d) Brevity, root stress	*bosá* : *bòso*		*bosî*	– final stress
final stress	*ostrá* : *ostrò*		*ostrî*	– final stress

No metatony is found on brevities, except in Leka-type R dialects. NRP occured on FP in type b) and on original RP in type c); NFP developed dialectally on RP (type a).

Polysyllabic adj, while following essentially the same patterns, occasionally introduce some additional complications, especially if their stems contained *jers*. Scrutiny of these complications belongs to the histories of the individual Sl languages.

10. Problem of metatony in the comparative. Comparison of such forms of the positive and comp as R *mólod* 'young' : *molóže*, Cz *horký* 'hot' : *hůře* 'worse', Sn *bŕzo* 'fast' : *bȓže*, SC *blȇd* 'pale' : *blȇdi* may give the impression that the comp in Sl went through some metatony. Actually, however, the changes in quantity and pitch

[20] Of course, discrepancies between masc vs. fem and neut in the nominal forms are to be assumed here, as for type b). But they were probably soon eliminated. The development is clear without taking them into account. Very likely the reason for this ist that in this type of adj they arose only after the loss of stressability in *jers*.

[21] Original RP is marked with ′, NRP with ˜, original FP with ˆ, stressed brevities with ˋ. Unstressed length is unmarked.

between the two degrees as represented in the historical Sl languages were subject to sweeping generalizations which were conditioned morphologically and were probably of an early date.

The rules followed by the prosodic pattern of the comp in *-*je* (with its correspondences in the masc and fem) are simple and embrace various adj independently of the original intonation of the root vowel. Length was generalized in Cz. In SC (Čak included) ʺ was generalized. In R it was penultimate stress. Correspondences of the type R *výše* 'higher' – Cz *výše* – SC *vȉše* 'more' might seem to be reflexes of the original RP. Yet Sn generalized ˆ (*vîše*), and the uniformity of the prosodic pattern in all those Sl languages which have preserved this type of comp is not a result – or at least not a direct result – of a CS metatony[22].

11. Metatony in verbs: present tense. The following types of prosodic changes are observed in the present-tense forms of Sl verbs:

a) NRP on the theme vowel (initial vowel of the endings from the modern point of view): Čak *trpíš* – *trpí* 'suffer' (2 and 3 sg)[23];

b) NRP on the root vowel with original FP: Čak *píšẽ* 'write'; and on short vowels: R Leka *pôl'it* 'weed';

c) NFP on the root vowel with original RP: Čak *mâžĩ* 'smear';

d) NRP on the root vowel of verbs which have a contracted vowel in the next syllable: Čak *pítā* 'ask'.

Each of these cases has its peculiarities, in scope as well as area. Therefore, they must be examined separately.

a) NRP on the theme of the verbs. This metatony is directly represented on *i* and *e* of fourth class verbs in Čak: *trpȉt* 'suffer' : *trpí*, 3 sg; *trpé*, 3 pl, but only in those which had final stress, as can be seen even now in the 1 and 2 pl forms: *trpīmȍ*, *trpītȅ*, cf. OR *terpját* (Uč i xitr). Standard SC reveals NRP by its postaccentual length: *tȑpī*, and the reflexes in the other Sl languages capable of showing length reflect the NRP in their lengths, too: Sk, Cz, Sn *trpí*.

In Čak NRP did not occur (or has not been preserved) on *e* of the first, second and third class verbs: *nesȅ* 'carry', and this is true also of Cz (*nese*) and Sn (*začnè* 'begin'); but Sk *nesie* as distinct from verbs with original nonfinal stress, of the type *píše* (Cf. R *nesët* vs. *píšet*), implies that Sk could have had NRP on *e* the same as on *i* (unless brevity on the ending in *píše* and alike is the result of a secondary shortening due to Sk aversion to two successive lengths). OCz texts occasionally had length on -*e*, too. Standard SC generalized long *e* in all verbs: *nèsē* as *pîšē*.

Generalizations of this kind do not mar the original distribution if all the pertinent languages are taken into account. Metatony of the theme vowel *i* and, dialectally, *e* was the response to the loss of stressability of final *jers*. When the stress was retracted from the final *ь* onto *i* in **tьrpitь*, 3 sg, the latter acquired NRP.

[22] As these generalizations started early, one may speak of a generalization of RP in R, Cz and SC, of FP in Sn, rather than a specific stress place in R, length in Cz as presented above from a synchronic point of view.

[23] The 3 sg will be cited as representative of the whole pres, except the 1 sg, in forthcoming examples.

This is corroborated by the athematic verbs where, under the identical phonetic conditions, the root vowel developed NRP: Čak *dá* 'give', *jí* 'eat', *poví* 'tell' and correspondingly Sk *dá*, *povie* (but *je* with shortening after *j*), Cz *dá*, *jí*, *poví*, Sn *dá*, *jẹ́*, *povẹ́*, SC *dâ*, arch *jê*, *vê*. For original final stress cf. U *damó*, *jimó*, (*o*)*povimó*, 1 pl.

b) NRP on root vowels with original FP, or on short vowels. This problem was presented preliminarily in 4, 10. Before taking up the discussion it is important to delineate which verbs are involved.

Of the first and second classes very few verbs participate in this phenomenon: in R, of the first class only *mogú* : *móžet* 'can' and several verbs which had *jers* in the root (*primú* : *prímet* 'take away', in OR also *idú* : *ídet* 'go' and a few more) belong to the type; of the second class only *pomjanú* : *pomjánet* 'mention', *obmanú* : *obmánet* 'cheat', *tjanú* : *tjánet* 'pull', *tonú* : *tónet* 'sink' follow the pattern. It is obvious that these few odd verbs are exceptional and switched from the stress pattern of their own class to that of other classes. This switch, however, must have been CS, at least for some of them. Traces of NRP are found outside R as well:

Sk *môže*, Cz *mohu* : *může*, Sn *móre*, SC *mògu* : *mȍžē*, Čak *mȍre*; cf. Br dial (area of Lida): *maγú* : *móžeš*, 2 sg;
P *ciągnie*, Sk *tiahne*, Cz *táhne*, Sn *tẹ́gne*, SC *têgnē*, Čak (*po*)*tégne*;
Sn *tọ́ne*, SC *tȍnē*.

The bulk of the material is found among third and fourth class verbs, where examples are copious. It is expedient to examine separately roots with original FP and those with brevity.

ba) Verbs whose root vowel had FP, e. g.:
Čak *véže* 'bind', R *vjažú* : *vjážet*, P *wiąże*, Sk *viaže*, Cz *váže*, Sn *vẹ́že*, SC *vêžē*;
Čak *píše* 'write', R *pišú* : *píšet*, Sk, Cz, Sn *píše*, SC *pîšē*.
See also R *borót'sja* 'wrestle', *iskát* 'seek', *kolót'* 'prick', *molót'* 'grind', *nizát'* 'string', *pljasát'* 'dance', *poloskát'* 'rinse', *polót'* 'weed', *porót'* 'rip', *svistát'* 'whistle', *stlat'* 'spread'; SC *búcati* 'moo', *kúpati* 'bathe', *púhati* 'blow'; R *maxát'* 'wave', *paxát'* 'plough', *pyxát'* 'blow', *skakát'* 'leap', *stradát'* 'suffer'; SC *kázati* 'say', *slágati* 'compose'.

Examples are no less numerous among fourth class verbs:
Čak *vrãtĩt* : *vrátī* 'return', R *voročú* : *vorótit*, P *wróci*, Sk *vráti*, Cz *vrátí*, SC *vrâtī*;
Čak *súdī* 'judge', R *sužú* : *súdit*, P *sądzi*, Sk *súdi*, Cz *soudí*, Sn *sọ́di*, SC *sûdī*.
For more examples see R *delít'* 'divide', *dušít'* 'strangle', *kormít'* 'feed', *krutít'* 'twirl', *lenít'sja* 'idle', *lepít'* 'model', *lečít'* 'cure', *ljubít'* 'love', *mesít'* 'knead', *molotít'* 'thresh', *pustít'* 'let', *rubít'* 'fell', *svetít'* 'shine', *serdít'* 'make angry', *služít'* 'serve', *studít'* 'cool', *sušít'* 'dry', *tužít'* 'grieve', *tupít'* 'blunt', *tušít'* 'put out', *učít'* 'teach', *xvalít'* 'praise', *cenít'* 'appreciate', *cedít'* 'filter'; SC *gúliti* 'flay', *hrániti* 'feed', *kúpiti* 'buy', *zarúčiti* 'betroth', *trúditi* 'trouble' and many more.
As in the third class, many verbs whose root vowel originally had RP joined the type, as R *gasít'* 'put out', *davít'* 'press', *dyšát'* 'breathe', *manít'* 'beckon', *platít'* 'pay', *sadít'* 'plant', *taščít'* 'drag', *travít'* 'badger', *varít'* 'cook'; SC *jáviti* 'inform', *páliti* 'burn', etc.

bb) Verbs with short root vowel, e. g.:
R *gložú* : *glóžet* 'gnaw' (Leka *glȏžyt*), Sk *hlodze* (and *hlodá*), Sn *glọ́je* (and *glọ́da*), SC *glȍdē*, Čak *glȍjē*;

R *tešú* : *téšet* 'hew', U *tešú* : *téše*, P *ciesze*, Sk, Cz *teše*, Sn *tẹ́še*, SC *tȇšē*, Čak *tȇšē̃*; Sn *žénje* 'reap', SC *žȁnjē*.

As can be seen from these examples, metatony on short vowels in third class verbs is found in ESl and Sn but not in other Sl languages. ESl reveals metatony by stress shift and, in the case of *o*, by the substitution of *ô* for the genuine *o* in the Leka-type dialects. In Sn it is the lack of stress shift onto the next syllable (*glọ́je* and not +*glojê*, unlike, say, *okô* 'eye' < *òko*) which shows that the root vowel was no longer short.

A few more examples are R *bormotát'* 'mutter', *brexát'* 'lie', *česát'* 'comb', *klevetát'* 'slander', *lepetát'* 'babble', *pleskát'* 'splash', *roptát'* 'grumble', *stonát'* 'groan', *toptát'* 'trample', *šeptát'* 'whisper', *xlestát'* 'lash'; SC *làgati* 'lie', *mètati* 'put', *zòbati* 'peck', etc.

The relevant fourth class verbs follow the same pattern without any special peculiarities, e.g.:

R *prošú* : *prósit* 'beg', Br *prašú* : *prósic'*, P *prosi*, Sk, Cz *prosí*, Sn *prọ́si*, SC *prȍsī* 'ask (in marriage)', Čak *prȍsī*.
A few more examples are R *brodít'* 'roam', *klonít'* 'bend', *kopít'* 'store up', *kosít'* 'mow', *lovít'* 'catch', *lomít'* 'break', *močít'* 'wet', *molít'* 'supplicate', *nosít'* 'carry', *ronít'* 'drop', *topít'* 'drown', *točít'* 'sharpen', *vodít'* 'lead', *vozít'* 'cart', *xodít'* 'walk', *ženít'* 'marry'; SC *gròziti* 'threaten', *lòžiti* 'heat', *skòčiti* 'jump', etc.

An inquiry into MR and MU, however, discloses that most of the fourth class verbs (with both FP and brevity) which now follow this stress pattern did not do so even as late as the seventeenth century. Out of 151 such verbs 118 are attested with final stress in MR, e.g. instead of MoR *voročú* : *vorótjat*, 3 pl, Uč i xitr. has *povorotjátsja*, etc. It was inferred from this that the movable stress pattern in the fourth class verbs is an innovation spreading from the third class verbs (Kiparsky). Certain facts of MoR confirm this assumption. In some verbs which lost the original desinential stress in their regular forms, it is still retained in their reflexive forms, e.g. R *sádit* 'seat', (*po*)*lóžit* 'put' but *sadítsja, ložítsja*. In many others the stress of the pres act part still points to the original final stress, although now it is movable in the pres, e.g. R *gonjú* : *gónit* 'drive', but *gonjáščij* only, *brožú* : *bródit* 'stroll' but *brodjáščij*, etc.

There is, however, a discrepancy between the late extension of this type and the many precise correspondences in the other Sl languages: P, Sk, Cz, Sn, and SC, as shown in some preceding examples. Although there are verbs in which these correspondences are lacking (as U *zaručú* : *zarúčyt'* 'betroth', SC *zàrūči*, Čak *zarúčī̃* vs. P *zaręczy*, Sk, Cz *zaručí* 'guarantee', Sn *zaroči* 'betroth'), their number hardly exceeds the normal percentage of irregularities as found in Sl prosody. Moreover, usually one deals not just with shifts of stress but, in those languages which are able to show it, with the reflexes of a typical intonation, to wit NRP.

These considerations do not invalidate the assumption that the pattern spread to the fourth class from the third class verbs. But it arouses some doubt that the inception of the spread could have occurred as late as the sixteenth or seventeenth century. Besides, it is worth noting that as early as the

sixteenth century in some ESl texts (e.g. the Bible of Ostroh, 1581) the forms with shifted stress are represented abundantly. Then a more plausible assumption would be that the forms with shifted stress began spreading in the fourth class at the time of the general metatony, when the intonational pattern, at least as far as NRP is concerned was still not alien to most Sl dialects. But there obviously were some R dialects of the time which for several centuries resisted this expansion. They yielded only after the sixteenth century, under the pressure of the centripetal forces which have been observed in the history of R since the seventeenth century. This introduces a geographical factor along with the chronological. It was not that the common R pattern of third class verbs with shifting stress. vs. fourth class with final stress was superseded by another common R pattern, that of third and fourth class verbs with shifting stress, but that two OR dialectal patterns: 1) third and fourth class verbs with shifting stress vs. 2) third class with shifting, fourth class with predominantly final stress, merged into one, due to the expansion of the first pattern. Special studies are needed to ascertain the geographical facts, but a preliminary assumption is that the stronghold of final stress was in N Russia and that the retreat of the type is to be tied in with the increasing role of the SR dialects in the seventeenth century[24].

Thus, it may be stated that metatony of the type described in section (b) originated in the third class verbs but immediately spread to fourth class verbs. The rise of NRP is due to the stress shift from the theme onto the root vowel. According to the traditional approach, as alluded to at the beginning of this section and discussed briefly in 4, 10f, there was a blatant contradiction between Fortunatov's law as applied to the 1 sg and metatony arising in other persons. The operation of Fortunatov's law in the 1 sg presupposed original root stress: as it was combined with FP or brevity it was advanced, according to this law, onto the vowel of the last syllable, with RP. Conversely, metatony in other persons could have resulted from retraction of the desinential stress onto the root vowel.

This contradiction is only apparent, however. In reality the original stress was not bound either to the root or to the ending. It was penultimate, i. e. conditioned phonetically and not morphologically (See 4, 14). The paradigm of, say, R *vjazát'* 'bind' is to be reconstructed, then, as

1 sg (*v*)*ê*N*zjō*N
2 sg (*v*)*e*N*zjèxi*
3 sg (*v*)*e*N*zjèti*, etc.

According to Fortunatov's law the stress moved onto the ending in the 1 sg. Much later, when the syllabic boundary between the preceding consonant and *j* was displaced by the merger of this consonant with *j* (in this example *zj* > *ž*),

[24] A special problem is whether the pattern of shifting stress in fourth class verbs ever reached NR before the seventeenth century; and, if it did, whether it was suppressed for the sake of simplification within the paradigm (*deržú* : *déržit* becoming *deržú* : *deržít*) and then reintroduced from the south.

the stress in the 2–3 sg, etc. moved from the middle syllable onto the preceding syllable, thus producing NRP on the root vowel[25]. In fourth class verbs this shift was not motivated phonetically because they had no *j* (except in the 1 sg) and consequently no shift in syllabic boundary. But as they had followed the same pattern as third class verbs in the matter of accentual opposition between the 1 sg and the 2–3 sg etc. before the metatony, they eventually shared also the stress retraction and concomitant metatony.

c) NFP on the root vowel with original RP. The area of this metatony is limited. It occurs in Sn, Kajk, and Čak. In Čak it is found in second and third class verbs, in Sn and Kajk also in fourth class verbs. As a rule NFP occurs on the originally stressed root vowels with original RP, and the inf preserves regular reflexes of the latter, shortened as is to be expected under stress (See 32, 5a).

A few examples are:

Second class verbs: Sn *gíniti* : *gîne* 'perish', Čak *gȉnūt* : *gîne* vs. R *gíbnut'* : *gíbnet*, Sk *hynúť* : *hynie*, Cz *hynouti* : *hyne*, SC *gȉnuti* : *gȉnē*;

Third class verbs: Sn *kápati* : *kâplje* (and *kâpa*) 'drip', Čak *kȁpat* : *kâpḽe* vs. R *kápat'* : *káplet*, Sk *kapat'* : *kape*, Cz *kapati* : *kape*, SC *kȁpati* : *kȁpljē*;

Fourth class verbs: Sn *mísliti* : *mîsli* 'think', Kajk *mîsli* vs. R *mýslit'* : *mýslit*, Sk *mysliet'* : *myslí*, Cz *mysliti* : *myslí*, SC *mȉsliti* : *mȉslī*, Čak *mȉslit* : *mȉslī*.

Further examples are Sn *dvígniti* 'lift', *gásniti* 'extinguish', *kríkniti* 'shout', *stísniti* 'press'; *brísati* 'wipe', *díhati* 'breathe', *ré̜zati* 'cut', *sípati* 'pour'; *blátiti* 'soil', *mé̜riti* 'measure', *prážiti* 'fry', *síliti* 'force', *zdráviti* 'cure', etc. Through such verbs as *čúti* : *čûje* 'hear' this intonation pattern spread to numerous verbs in *-ovati* of the type *kupováti* : *kupûje* 'buy'.

d) NRP on the root vowel of verbs that have a contracted vowel in the next syllable. This NRP occurs on long vowels which were originally pretonic and does not affect brevities. ESl is excluded from this metatony by definition, for no vowel contractions in verbs occurred in that area.

This metatony resulted from a contraction of the group *-aje-* in which *a* was stressed; the contracted vowel consequently obtained FP; from this FP the stress was retracted onto the preceding long vowel, usually with original FP. The new stress was combined with NRP, e. g. Čak *mīšȁt* : *míšȁ* 'mix', Snc *mjȉₑšăc* (reflex of brevity) : *mjẽšâ* (reflex of length), Sk *miešat'* : *mieša*[26], Cz *míchati* : *míchá*, Sn *mé̜šati* : *mé̜ša*, SC *méšati* : *mêšā*. Bg, which is unable to show intonation, is important because it also has a stress shift cf. Bg *píta* 'ask' with Čak *pítȁ*, Kakj *pīta* and, on the other hand R *pytáet*.

Other examples are SC *rádati* 'give birth', *rúčati* 'breakfast', *čúvati* 'guard', etc., and in particular the numerous prefixed verbs of the impf (iterative) aspect, which paved the way to an expansion of NRP to the impf verbs in general. Here belong such verbs as SC *prekídati* : *prèkīdā* 'interrupt', *zastúpati* : *zástūpā* 'substitute', etc.

[25] The 1 sg was not affected by this shift because the stress did not move from diphthongs with RP. For details see section 16.

[26] Sk, Cz and P lengths in both the inf and the pres are ambiguous. They may be due to preservation of length under original RP in pretonic position or to NRP. The two forms usually have the same quantity.

Verbs which bore stress on the root vowel did not develop NRP, e. g. Čak *dȅlat* : *dȅlā* 'act', Cz *dělati* : *dělá*, SC *dȅlati* : *dȅlā* – cf. R *délat'* : *délaet*, Bg *djálam* 'hew' (Sn here switches to the accentual pattern of the suffix-stressed type: *dẹ́lati* : *dẹ̑la*).

The third type is represented by verbs with the original stress on the suffix, as in the first type, but with a short root vowel. These verbs retract the stress only in standard SC (Štok), but without any metatony. Elsewhere they preserve the old stress place or, in the languages with fixed stress place, presumably preserved it until the general loss of free stress. Cf. SC *kòpati* : *kȍpā* 'dig', vs. Čak *kopät* : *kopâ*, Sn *kopáti* : *kopâ*, Cz *kopati* : *kopá*. Characteristically enough, Bg does not have contraction in these cases: *kopáe*. This may indicate that the difference in the treatment of long and short vowels in the pres of *-aje*-verbs was conditioned by differences in chronology: the contraction after long vowels could antedate the contraction after short vowels.

In the individual Sl languages there is some overlapping of the three types. Examination of the irregularities belongs to the separate studies of these languages. At any rate they are nowhere so numerous as to blur the original distribution.

12. Remarks on metatony in other verbal forms. Besides the pres, metatonic phenomena were sought in the supine, certain forms of the aor and certain types of participles.

a) The supine of all the Sl languages able to furnish evidence for the original intonational relationships is preserved in Sn alone. Certain inferences can be drawn also from Cz, especially OCz.

The intonational pattern of the supine, as opposed to that of the inf, is highly morphologized and, especially in monosyllabic forms, no longer stands in any direct relation to the pitch of the root vowel. In Sn disyllabic infinitives long rising pitch is general, in the corresponding supines long falling pitch; inf *bráti* 'take', *mẹ́ti* 'rub', *nésti* 'carry' – supine *brât*, *mệt*, *nêst*. Correspondingly OCz (as well as Mo Cz) has length in the inf and brevity in the supine: *rýti* : *ryt* 'dig'. Cf. the only survivor of the supine in Mo Cz, *spat*, in the expression *jdu spat* as opposed to the inf *spáti* 'sleep'. This indicates that generalization of ˆ in this type of verbs is CS. As supines grew from the acc sg of *u*-stems, it may be assumed that they early underwent the same generalization of FP as subst of the type **sūnus* 'son' (See 4, 11d). It is, then, hard to discover a real metatony here[27].

In longer verbs, with trisyllabic inf and stressed suffix, three patterns exist in Sn: stressed brevity in final syllable of the supine, i. e. on the suffix *-a-* in third class verbs: *iskàt* 'search', *pisàt* 'write', also *bojevàt* 'fight' (inf *iskáti*, *pisáti*, *bojeváti*). Second class verbs and fourth class verbs with the

[27] While Sl developed an outspoken contrast between the inf and supine, standard Li made them alike: in Li the supine has the stress and intonation of the inf. But in ELi dialects the supine is distinguished by its rising pitch (˜), as in Sn and Cz.

suffixes *-a-* and *-ę-* have ´ on the root vowel: *tónit* 'drown', *dȑžat* 'hold', *sę́det* 'seat' vs. inf *toníti*, *držáti*, *sedę́ti*. This type is a modification of the preceding type: *tónit* may go back to **tonìt*, as *žéna* 'woman' to **ženà*. Finally, fourth class verbs with the *-í-* suffix and a few third class verbs with the *-á-* suffix lost in the pres have ˆ on the suffix in the supine: *darȋt* 'present', *sejȃt* 'sow' vs. inf *daríti*, *sejáti* (*sȩ̑jem*).

Trisyllabic verbs with root stress do not change their stress place or character: *míslit* 'think' like inf *mísliti*.

Thus so far as the original conditions may be uncovered through the modern, thoroughly morphological distribution, there is no unambiguous evidence of any kind of metatony in the supine, except possibly in the last type of trisyllabic verbs discussed, which may have had NFP.

b) In the 1 sg of the aor monosyllabic (not counting prefix and ending) verbs with original FP, which stressed the final syllable, as is still seen in the 1–2 pl, have NRP, judging by SC examples: *mrȇh*, from *mréti* 'die', cf. pl *mrésmo*, *nàsūh* from *nàsuti* 'pour in'. That ˆ here reflects NRP and not the original FP is seen from the fact that the stress retraction in the prefixed forms is more recent, SC and not CS, as in, say, the 2–3 sg aor: *ùmrēh* vs. *ȕmrē*.

No metatony occurs in verbs with original RP: *zvȁh*, from *zvȁti* 'call'.

c) In *-l-* participles both NRP and NFP are found, albeit limitedly. NRP arose on vowels with original FP in masc sg forms of the *-l-* part in first class verbs which had final stress, e. g. Čak *trésă̈l*, *vúkă̈l*, from *trést* 'shake', *vúć* 'drag' (fem *trēslȁ*, *vūklȁ*) – cf. R *volók* (fem *voloklá*; for the underlying FP cf. the subst *vólok* 'portage'), U *volík* (fem *voloklá*), P *trząsl*, *wlókł* (fem *trzęsla*, *wlokła*), Sk *triasol*, *vliekol*, Cz *třásl*[28], SC *trȇsao* (fem *trésla*). Sn stands apart with its *trȩ̑sel*, *vlȩ̑kel* (fem *trę́sla*, *vlę́kla*). It generalized ˆ on long vowels in the forms in question. On vowels with original RP, cf.: *pȃdel*, *grȋzel* from *pásti* 'fall', *grísti* 'bite', also Kajk *grȋzel*.

On short vowels no metatony is observed, except P, Sk and Sn, e. g. P *niósł*, *plótł* from *nieść* 'carry', *pleść* 'weave' (fem *niosła*, *plotła*), Sk *niesol*, *piekol* (from *pect'* 'bake'), *plietol*, Sn *nę́sel*, *plę́tel*, *pę́kel* vs. Cz *nesl*, *pletl*, *pekl*, SC *plȅo*, *pȅkao* (fem *plèla*, *pèkla*).

The area of NFP is restricted to Sn and the contiguous (Kajk) dialects of SC. This pitch occurs in tri- and polysyllabic forms of the fem sg as a rule on the vowel of the next-to-last syllable with original RP. These are usually the suffix vowels of the second, third and fourth class verbs, e. g. Sn *dahnȋla* (*dahníti* 'breathe') vs. masc *dahnìl*, neut *dahnílo*; *držȃla* (*držáti* 'hold'), *želȩ̑la* (*želę́ti* 'wish'), *kupovȃla* (*kupováti* 'buy'), Kajk *želȇla*. This applies also to verbs which originally were trisyllabic but became disyllabic with the loss of the root *jer*, if the stress was stable: Sn *tkȃla*, Kajk *kȃla*. It was assumed that the type with ˆ spread from these verbs.

d) In pass part with the suffix *-an-*, NRP is found on root vowels in the same

[28] Sk and Cz generalized length from the masc sg to other forms of the *-l-* participle.

type of verbs which have the reflexes of this pitch in the pres tense (See section 11b and d). NRP is retained in all nominal forms of these participles. As the correspondences with the pres are manifest, it suffices to illustrate the statement summarily, referring for further examples to the lists of verbs cited there:

third class verbs with stems ending in a consonant: OCS *vęzati* 'bind', *pisati* 'write': Čak *vézȃn*, *vézȃna*, *písȃn*, *písȃna*; R (*za*)*vjázan*, -*vjázana*, (*na*)*písan*, -*písana*; Sn *vę́zan*, (*na*)*písan*; SC *vȇzān*, *pȋsān*;

contracted third class verbs (with the stem ending in a vowel): OCS *měšati* 'mix': Čak *míšȃn*, *míšana*; Sn *mę́šan*; SC *mȇšān*; also R (*s*)*méšan*, -*méšana* (See below);

fourth class verbs: OCS *sǫditi* 'judge': Čak *sújȇn*, *sújena*; Sn (*ob*)*sǫ́jen*; SC *sȗđen*.

In the latter group R often deviates and abounds in fluctuations and doublets. This is a natural result of the interplay between the two groups of fourth class verbs, with final stress and with mobile stress (due to the operation of Fortunatov's law and NRP. See section 11b). For *sudít'* there is the form with final stress (and OCS features): (*o*)*suždën* : *osuždená* along with *súžen*(*yj*) used in the specific meaning of 'prospective husband'. Cf. also (*po*)*xorónen* and (*po*)*xoronën* (pres *xoronjú* : *xorónit* 'bury') with an obvious reflex of NRP in the first of the doublets.

What is more surprising is that R has a stress shift pointing to NRP in those third class verbs with stems ending in a vowel, as exemplified above by *mešát'*. U shares this pattern with R: *mišáty* : *míšanyj*. As metatony in this type of verbs was a corollary of contraction, and ESl did not have any contraction, no NRP is to be expected in these verbs and consequently the stress may be expected to remain on the suffix. This is what is actually found in Br: *mjašác'* : *mjašány*. The R and U forms are individual morphologically motivated innovations. The pattern of third class verbs with stems ending in a consonant was decisive here: *mešát'* : *mešán* was replaced by *mešát'* : *méšan* under the influence of the type *vjazát'* : *vjázan*, *pisát'* : *písan*. Cf. the same shift in MR *poddánnyj* 'subject', until the mid-eighteenth century, but later *póddannyj*, based on a fifth class verb. A remnant of the phonetically normal forms may be seen in R *želánnyj* from *želát'* : *želáju* 'wish' as well as in scattered examples in MR texts of the type *vospitánъ*, *obladánъ* (the Bible, 1663), *darovánnogo* 'donated' (1771), etc. which must not be ChSl, i. e., in this case, Bg. Bg even now distinguishes fairly well between the types *glédan* (*glédam* 'look') and *igrán* (*igrája* 'play'), i. e. contracted and uncontracted verbs.

13. Problem of metatony before *j* and other resonants. The bulk of the pertinent material consists of fem and neut subst (on masc subst see section 16), but several other words are involved as well. The common denominator of otherwise heterogeneous material is that in all these words the final vowel was preceded by *j* or, less frequently, some other resonant. While other resonants are preserved, *j* as a rule merged with the consonant which immediately preceded it or became contiguous after the loss of an intervening *ь* (*ĭ*). Instances in which

a long vowel was used in the syllable before the resonant must be kept apart from those with a short vowel. Hence the following classification is expedient:

a) Long vowel before a consonant followed by predesinential *j* : type of R *súša* 'dryland';

b) Short vowel in the same position: type of R *vólja* 'will';

c) Long vowel before a consonant followed by ь plus predesinential *j* : type of SC *lȉšće* 'foliage';

d) Short vowel in the same position: type of Cz *zelí* 'cabbage' (CS **s*$_o$*auxj*$_o$*ā*, **v*$_o$*alj*$_o$*ā*, **l*$_e$*aistij*$_e$*a*, **z*$_e$*alij*$_e$*a*, respectively). In the case of predesinential resonants other than *j* only instances with short vowels are relevant: type e) P *góra* 'hill' (CS **g*$_o$*ar*$_o$*ā*). No metatony occurs here on long vowels.

Cases a) and b) were previously discussed in 4, 11a, cases c) and d) in 32,8.

a) Long vowel before a consonant followed by predesinential *j*. Metatony is largely attested in these instances: NRP arose on the original FP, NFP on the original RP. Areally the two do not coincide.

aa) NRP on original FP. Examples: Čak *stráža* 'guard', U *storóža*, P *stróż*, Sk, Cz *stráž*, Sn *stráža* (along with secondarily deviating *strȃža*), SC *strȃža*, Bg *strážа*[29] – cf. R *stórož* 'watchman', with reflex of original FP;

Čak *žéja* 'thirst', P *żądza* 'desire', OCz *žieze* (Cz *žízeň* 'thirst'), Sn *žẹ́ja*, SC *žȇđa*, Bg *žážda* (and not ⁺*žeždá*).

See also Cz *koupě* 'purchase', *nouze* 'poverty', *svíce* 'candle' (cf. *svět* 'light'), *poušť* 'wilderness', *hráz(e)* 'dike' (cf. *hrad* 'castle'), *louže* 'puddle', *tíže* 'weight', *houšť(e)* 'thicket', *souš(e)* 'dry land', *práce* 'work', *bouře* 'storm'; SC *vȓša* 'fish basket'; Sn *sája* 'soot' (cf. *sȃd* 'fruit'); R *poróša* 'new fallen snow' (cf. *pórox* 'powder'); Bg *vėžda* 'brow', etc. Occasional deviations in individual languages, such as P *nędza* 'misery', R *nuždá* 'need' (but MR *núžda*), Cz *saze* 'soot' (but OCz *sáze*, SCz dial *sáze*), are explainable as switches to other declensional and/or accentual patterns. A deviation of CS character is represented by R, Br, U, Bg *dušá* 'soul', Sk *duša*, Cz *duše*, Sn, SC *dúša* and less definitely by R *svečá* 'candle', SC *svéća* vs. Sk *svieca*, Cz *svíce*, Sn *svẹ́ča* (cf. also UChSl *svěšča*, Suprasl' dictionary, 1722), words which escaped metatony for reasons explained in 4,11a. See also section 16.

ab) NFP on original RP. This metatony is limited to Sn, while in the other Sl languages regular reflexes of RP are found:

Sn *prẹ̑ja* 'yarn' vs. R, U *prjáža*, Br *práža*, P *przędza*, Cz *příze*, SC *prȅđa* (Čak *prȅja*), Bg *préžda*;

Sn *krȃja* 'theft' vs. R *kráža*, SC *krȁđa*;

Sn *grȋža* 'diarrhoea' vs. R *grýža* 'hernia', Br *hrýža*, SC *grȉža* 'colic', Bg *gríža* 'trouble'.

More often, however, reflexes of the original RP are found even in Sn, as in *mrẹ́ža* 'net', *jẹ́ja* 'meal', *píča* 'food', *sẹ́ča* 'wood cutting', *sẹ́ja* 'seat', *pláča* 'salary', *kánja* 'buzzard', *káša* 'porridge', *gráblje* 'rake', *káplja* 'drop', *stája* 'stand', etc. Of the two intonations, the ′, though more frequent, is apparently a result of

[29] The shift of stress from the ending points to NRP.

later innovation, and NFP is to be considered typical of OSn. It was eliminated in most words because in basically disyllabic fem subst in *-a* the ˆ in Sn generally characterizes morphologically complex words, i. e. those with a suffix (*prâvda* 'law') or a prefix (*zastâva* 'banner') or both. As *j* "dissolved" in other consonants (as in *pláča*) or "dissolved" other consonants in itself (as in *jẹ́ja*), its functioning as a suffix became impossible and the words became morphologically simple. The ′ pitch typical of simple disyllabics in *-a* was introduced, so that only a few words still bear witness to NFP.

b) Short vowel before a consonant followed by predesinential *j*. Short vowels in this position underwent metatony dialectally, in R (Leka-type dialects) and in an area centering around Cz and Sn. In Sn and the contiguous Kajk dialects of SC metatony is visible on both *o* and *e*, in Cz clearly on *o*, with some vestiges on *e*; in Sk it is visible on *o*, but usually only in the position before a resonant. Scattered instances of the expansion of this trend are attested in the adjacent P dialects in the Carpathians. Metatony apparently did not take place in the other Sl languages, but the stress place in Br, U, SC, and Bg is the same as in R and Sn, contrary to what would be expected according to Fortunatov's law.

Examples: ba) *o* before a resonant: Sk *vôňa* 'fragrance', Cz *vůně*, Sn *vónja* 'smell' vs. SC *vȍnj(a)*[30];

R dial (Leka) *vôlja* 'will', P dial *wóla*, Sk *vôl'a*, Cz *vůle*, Sn *vólja* vs. Br, U, Bg *vólja*, SC (also Čak) *vȍlja*; cf. Li *valià* 'will'.

Also see R *dólja* 'part', Sk *tôňa* 'shadow', possibly Cz *půle* 'half'.

bb) *o* before a non-resonant: R dial (Leka) *kôža* 'skin', Cz *kůže*, Sn *kọ́ža*, Kajk *kôža* from **kõža* vs. Sk *koža*, SC (also Čak) *kȍža*, Bg *kóža*;

R dial (Leka) *nôša* 'burden', Cz *nůše*, Sn *nọ́ša* vs. Br, U *nóša*, Sk *noša*; cf. Li *našà* 'output'.

Also see Cz *chůze* 'walk' (Sk *chôdza*), R *rogóža* 'bast mat'; one loan word also became involved in this pattern: Cz *růže* 'rose'.

bc) *e*: Sn *pẹ́ča* 'trouble', *stẹ́lja* 'straw bed', Cz *péče* vs. SC *pȅča*.

bd) In Sn NRP is found also on reflexes of *jers* which are preserved in this case as a vowel: *sánja* 'dream', *tášča* 'mother-in-law'. Cf. also the loan word *máša* 'mass' (See 29,9).

There are words, however, which retained their final stress and so were spared metatony: R *močá* 'urine', *mežá* 'boundary', *zemljá* 'earth'. Correspondences in the other Sl languages also point to final stress: Br *mačá*, SC *mòča* 'dampness' (Sn *móča*); Br *mjažá*, U *mežá*, Sn *méja*, SC *mèđa*, Bg *meždá*; Br *zjamljá*, U *zemljá*, Sn *zémlja*, SC *zèmlja*, Bg *zemjá* (See 4,11). The trisyllabic R *gospožá* 'mistress', Čak *gospojä̀* (Cf. Sn *gospá*) also preserves final stress (but SC *gȍspođa*).

It is significant that this metatony is typical of subst fem but not neut: Sk, Cz *pole* 'field', Sn *poljê*, SC *pȍlje*, Bg *polé*. This suggests that metatony on short vowels was associated with stress retraction onto the preceding syllable, and implies that in fem subst of the type (*R*) *vólja* NRP originally developed in the nom sg but not in the acc sg (*võlja* vs. *vòljọ*). But in fem subst the NRP was

[30] Bg *vonjá* with a secondary stress shift under the influence of the verb *vonjá*.

soon generalized. This stage of generalization is reflected in prepositional constructions: R *na vólju*, SC *nà volju*, Sn *na vóljo*. Where the stress was on the short (i.e. not metatonic) vowel of the root, it was retracted onto the preposition, e. g. R *ná vodu* 'on water', SC *nȁ vodu*, Sn *na vộdọ* (< **nȁ vọdọ*). A vowel under NRP resisted such a retraction.

c) Long vowel before a consonant followed by ь ÷ predesinential *j*. As shown in 32,8, P, Cz, and Čak in this case had a contraction of the two final syllables and as a corollary, lengthening of the final vowel which, judging from Čak, acquired NRP: *kamení* 'rocks' < *kamenьje*. In those Sl languages which did not carry out vowel contractions before the loss of *jers* a metatony might reasonably be expected in the root. It is actually found, according to the same lines as in a), i. e. for the original RP, NFP in Sn: *zdrâvje* 'health' (cf. *zdràv* : *zdráva* 'healthy'), *znânje* 'knowledge' (cf. *znáti* 'know'), *brâtja* 'brothers' (cf. *bràt* 'brother') – vs. SC *brȁća*[31];
for the original FP, NRP, in a broader area: Sk *prútie* 'twigs' (sg *prút*), *lístie* 'foliage' (sg *list*); SC *prûće, lîšće* (vs. *prȗt, lȋst*[32]); Sn *prọ́tje, lístje* (vs. *prột, lȋst*). It is striking, however, that NRP in certain cases is found also in those languages which have carried out contractions: P *prącie* (vs. *pręt*); Cz *proutí* (vs. *prut*), but *listí* as *list*; Čak *prútjī*. This must have stemmed from an interplay of forms and/or dialects with and without contractions.

d) Short vowel before a consonant followed by ь ÷ predesinential *j*. The number of disyllabic examples is small and the relationships entangled, due partly to the confusion of several accentual patterns (original root stress, stress on ь, and on the ending) and partly to analogies with the underlying word. On the basis of Čak *zélī* 'vegetables' (along with *zelí*), Kajk *zȇlje*, SC *zȇlje*, Sn *zẹ́lje*, one may assume NRP at least for the SW Sl dialects. But ˆ in SC as well as ′ in Čak may be positional before *l* (Cf. *zȇje* in SČak [Hvar]). Another example: Čak *voćí* 'fruit', Sk *ovocie*, Cz *ovoce*, Sn *ovôčje*, SC *vȍće*, Bg *ovóšte* reveals no traces of NRP. Sn *grózdje* 'grapes', SC *grȏžđe* are ambiguous, but SČak (Hvar) *grȏzje* points to a lengthening not connected with NRP.

Presence of NRP, thus, if contended for SW Sl in the cases when stress was retracted from ь, remains but a possiblity. It would be even more risky to assume an extension of NRP farther east on the grounds of such an example as R Leka-type *kôl'ja* 'stakes', Sk *kôl'a* (Sn *kọ́lje*, SC *kȍlje*) vs. Cz *kolí*. All the changes of *o* may stem here from the underlying masc form (Leka *kôl*, etc.) and may be of a relatively late date. No metatony is to be supposed for words with original final stress: R *kop'ë* 'spear', P *kopie*, Sk *kopija*, Cz *kopí*, Sn *kopjê*, SC *kòplje* (but Bg *kópie*).

Systematic and exhaustive studies of types c) and d) would be necessary before a definitive classification and explanation of the cases involved could be undertaken.

e) Problem of metatony on short vowels before predesinential sonants other than *j*, and related cases. This metatony, so far as can be determined on the basis of the extant evidence, was limited to P, Sk, and Cz and was particularly active in Cz. In P it encompassed fewer word types, and in Sk it was carried out on a still narrower scale. Only a few repercussions may be tentatively uncovered in U and not many more in R Leka-type dialects. The phenomenon seems to be unknown in SSl.

[31] SC *zdrȃvlje, znȃnje* have lengthening before a resonant; Sk *zdravie, bratia* have brevity under the original stress. Cz *zdraví, bratři* are inconclusive. Cz *znání* has length transferred from the pass part (See section 12d).

[32] ˆ in *prûće, lîšće* represents NRP; in *prȗt, lȋst*, gen sg *prȗta, lȋsta* the original FP.

In Cz the lengthening harking back to metatony on short vowels in the penultimate syllable of disyllabic words occurs before *r* and *l*, infrequently also before *n* and *d*, and only exceptionally after *r* before some other consonants. In P this lengthening is found before *r* alone, in Sk before *r* occasionally and in a few other isolated words, for affective reasons, or in words patterned on Cz. As a rule these mutations are typical of CS pretonic syllables.

The data for the position before *r* are:

Cz *kůra* 'rind', Sk *kôra*, P *skóra* 'skin' (but *kora* 'rind'), vs. Sn *skóra* ~ *kóra*[33], Bg *korá*;

Cz *vzhůru* 'up', OECz, in place-names, *Hůra* (but standard Cz *hora* 'mountain'), P *góra*, but Sk *hora*. Cf. Sn *góra*, Čak *gorȁ*, Bg *gorá* 'wood';

Cz *můra* 'nightmare', but Sk *mora* 'vampire', P *mora* ~ *zmora* 'spectre'. Cf. Sn *móra* 'nightmare';

Cz *péro* (and *pero*) 'feather', P *pióro*, but Sk *pero*. Cf. Sn *pérọ* (and *perộ*), Čak *perȍ*;

Sk *dcéra* 'daughter', P *córa* (and *cora*), Cz dial (Podkrkonoší) *círa* (but standard Cz *dcera*). Cf. Bg *dəšterjá*.

No length is found in Cz *nora* 'burrow'; P *nura* (along with *nora*) is ambiguous: its *u* can stem from *ó* but is usually supposed to be a specific grade of vowel alternation. P extended lengthening to a word of different structure: *żóraw* 'crane'; cf. Sk *žeriav*, Cz *žeráv*. P *który* 'which' and *wtóry* 'second' probably also belong here.

The material for the position before other sonants is scantier:

Cz *smůla* ~ *smola* 'pitch' vs. Sk *smola*, P *smola*. Cf. Sn *smóla*, Bg *smolá*;

ECz *důle* 'below' (Standard Cz *dole*) vs. Sk *dole*, P *na dole*;

P *pola* 'skirt' is not represented in Cz;

Cz *jméno* 'name' vs. Sk *meno*;

Cz *sůva* ~ *sova* 'owl' vs. Sk *sova*, P *sowa*. Cf. Sn *sóva*, Cak *sovȁ*;

Cz *lůno* 'womb' vs. Sk *lono*, P *łono* is the only word in the group which presumably had penultimate and not final stress: R, Bg *lóno*;

No lengthening is attested in Cz, Sk *čelo*, 'brow', P *czolo*; but cf. double stress in Bg *čéló*, U *čóló*.

Instances of metatony before other consonants, usually voiced, or after *r* before any consonants are merely coincidental. These are probably isolated repercussions of the metatony before sonants, extended to similar but not identical environments: Cz dial (Podkrkonoší) *rúsa* 'dew' (Standard Cz *rosa*) vs. Sk, P *rosa*; OECz, in place-names, *Vůda* vs. standard Cz and Sk *voda* 'water', P *woda*; Cz *hrůza* 'terror', *půda* 'soil', both imitated in Sk as *hrôza*, *pôda*. Cf. Cz *lhota* 'privilege' vs. *lhůta* 'term'; also US *póda* 'soil'.

In U, *škíra* 'skin' represents the type; dialectally also (Lemkian) *dríga* 'road'. It is possible that U *biljá* 'near' has *i* of the same origin, cf. US *pola* ~ *připódla* 'near', with affective voicing of *p-* in U.

In R Leka-type dialects there are scattered forms of the type *gôry* 'mountains' (Korobov rajon of Moscow oblast, Kurlovo rajon of Vladimir oblast), *darôga* 'road' (Korobov rajon, Klepikov rajon of Rjazan' obl.), etc., but the distribution of *o* and *ô* nowadays is so blurred that it is hardly possible to establish whether these forms are remainders of an old system.

From the material cited it is obvious that many fluctuations occur in this category, even in Cz, where the change was of broadest scope and has been preserved better than anywhere else. The reasons for these fluctuations are twofold. On the one hand, the phenomenon as of now is residual and maintained

[33] In this and following Sn examples ′ could be a reflex of NRP as well as the pitch typical of transferred stress (as in *žéna*, cf. R *žená*). But the open character of *o* and *e* shows that the second is true.

by tradition alone: in older sources the sway of the metatony was somewhat wider. But vacillations are to be supposed even for that time. The chief reason for their presence was the instability of stress in most of the words involved. While, e.g., stress was final in the nom sg, it rested on the root in, say, the acc sg. Cf. R *vodá* : *vódu*. Hence metatony did not characterize the whole paradigm. Under these conditions the rise of fluctuations was only natural. The evidence of SC, not cited above, is valuable from this point of view. While *gòra, mòra, pèro, smòla* point to an erstwhile final stress, *kȍra, pȍla, sȍva* reflect the stress shift with leveling based on the acc form. Li parallels also belong to the mobile stress declension: Li *skarà* 'shawl' : acc *skãrą*, Li dial *smelà* 'resin, tar' : acc *smẽlą*.

14. Causes and nature of metatony: summary. The rather detailed, though by no means exhaustive, survey of categories in which prosodic shifts occured shows the variety of layers and heterogeneity of the phenomena usually labeled metatony. They belong to various periods of time and to areas of various sizes and boundaries.

When metatonic developments were uncovered in Sl, attempts were made to find a regular pattern in them. NRP on the original FP was best suited to that purpose. But in striving to find symmetry and balance in all the phenomena involved, the researchers tried to prove that developments toward NRP on brevities were parallel, as well as those toward NFP on the original RP. This would have produced a neatly balanced scheme:

FP (on long vowels)	————→	NRP
Brevities (i. e. FP on short vowels)	————→	NRP
RP	————→	NFP

Although never presented directly in this symmetrical shape (because of too many contradicting facts), this vision probably loomed in the minds of such scholars as van Wijk, Lehr-Spławiński and others. While marshalling all the pertinent facts, which was a fruitful effort, they simultaneously attempted to explain away all that did not agree with the envisaged scheme.

Now it is clear (owing in particular to studies by Stang and Kuryłowicz) that the hoped-for harmonious developments never took place. Moreover, it would be at variance with the historical facts to suppose that they ever could have taken place. Under the conditions of already disintegrated CS, when the Slavs were settled in the vast areas of Central and Eastern Europe, no longer with any tangible contacts among the many tribes; when the first Sl states and nations were in the making; and when, in addition, the intonational system of CS had been shaken to its foundations, it would have been a miracle if Sl as a whole had undergone uniform and symmetrical developments in its pitch and stress system.

As the facts are now known, metatony, even in the broadest and loosest sense does not cover certain phenomena which traditionally are included in it. As shown in sections 10 and 12a, the pitch patterns of Sl comp in adj and probably those of the supine in verbs are based rather on morphological levelings. The

lengthening and subsequent or concomitant narrowing of *o*, *e* before predesinential sonants other than *j* (type P *góra*. See section 13e) should be removed from the scope of metatonic changes as well. Aside from the areal limitations of this alteration (Cz with limited extension to Sk and P), it was just a lengthening in a specific phonetic environment, of a somewhat later date.

Of the metatonic developments proper, NRP on the original FP was of the widest range in both the number of grammatical categories involved and the area of spread. It resulted from several factors:

a) Stress retraction from final or internal stressed *jers*: nom sg of masc and fem subst, nom sg masc of nominal forms of adj, gen pl of nouns, masc sg of the *-l-* part, 1 sg aor, and suffixed formations with suffixes beginning in a *jer*;

In one of these categories, the gen pl, the metatony of FP into NRP was generalized: it encompassed not only nouns with consistent word final (desinential) stress, but all subst with FP on the root vowel. This indicates that in CS the gen pl ending was stressed in words of this type, regardless of the type of paradigm (and may imply that at the time when Fortunatovs' law was operating the gen pl had a long vowel in its ending, in agreement with Gr -ων, etc., which later shortened to yield, eventually, -ъ).

b) Stress retraction from vowels other than *jers*: verbs of the third and fourth classes in the pres, which previously stressed the theme; verbs of the third class in *-aje* which contracted into *â*; subst with a *j*-suffix (type SC *sûša*).

c) The advance of stress onto enclitics and the subsequent shift back, probably originally limited to cases in which the advanced stress fell on a *jer*, as in (a): compound adj.

In the nom pl of neut subst (type Čak *ústa*) the inception of NRP was also due to stress retraction from the ending, the only difference being that the reason for this retraction was strictly morphological.

In all these cases, thus, NRP ultimately arose as a response to stress retraction. It is quite appropriate to define NRP as an "intonation" (prosodic mutation) which in early Sl (during and after the dissolution of CS) characterized originally pretonic syllables with FP when the stress moved onto them from the next syllable.

There was only one case to which this definition does not apply: NRP on final vowels in the nom pl of neut subst. But the very area of this phenomenon shows that it cannot be put on equal footing with other cases of NRP: it is limited to Sk and some SC dialects. It is a later expansion of NRP, as the most express intonation of length, to newly arisen length (See section 7).

Another reservation is necessary in regard to instances in which NRP occurs on vowels with the original RP. This was noticed in some suffixes (type U *junák*, see section 5), in some neut subst in the nom pl in Čak (See section 7), and in a few verbs in the pres (See section 11). These cases are scattered and encompass only a limited number of words involved by morphological analogy in a change otherwise typical of the morphemes which had vowels with FP only.

Thus NRP was associated with retraction of stress onto FP, and in this sense it was a common response of the Sl dialects to common challenges, first of all

the loss of stressability by *jers*. The swing of metatony toward NRP is visible from the following table, which includes all Sl languages capable of explicitly showing the reflexes of NRP, i. e. all except Pb, So, and M:

	Mono-syllabic nouns	Gen pl	Com-pound adj	Pres tense theme	Pres tense root	Type *pĩtāš*	Type *sũša*	Nom pl neut root	Final vowels (nom pl neut, etc.)
R	+	+	±	0	+	0	+	—	—
Br	+	+	±	0	+	0	+	—	0
U	+(*o*)	+(*i*)	±(*o*)	0	+(*o*)	0	+(*o*)	—	0
P with Ka	+	+	±	0	+	+	+	—	—
Sk	+	+	±	+	+	+	+	—	+
Cz	+	—	±	+	+	+	+	—	—
Sn	+	+	+	+	+	+	+	±	+
SC	+	+	+	+	+	+	+	—	+
Čak	+	+	+	+	+	+	+	±	+
Bg	+	0	0	0	+	+	+	—	0

Explanation of marks: + = presence of NRP; — = absence of NRP; ± = unsystematic appearance of NRP; 0 = lack of evidence (or does not apply to the language in question). For U *o* in parentheses shows that pleophonic groups under NRP preserve *o*; *i* = that the second *o* changed there into *i* (type *koról'* vs. type *holív*).

The table shows that the developments in colums 1–7 were shared by all or most Sl dialects; those in the last two columns were local "excesses". The former resulted from a phonetic change, the latter were morphological adaptations of the newly developed NRP or outgrowths of the phonetic development extended beyond its original scope.

As for metatony toward NRP on brevities, there was no common trend and no generally shared development. Only local outbreaks are observed, isolated in various points of the Sl area. A table like the preceding would best convey the character of these developments. Standard R, Br, and Bg are excluded from the table, as they give no evidence of any changes other than stress shift. This exclusion in itself means a significant reduction of the area.

	Mono-syllabic nouns	Gen pl	Com-pound adj.	Pres tense, theme	Pres tense, root	Type *pĩtāš*	Type *sũša*	Nom pl neut, root
R (Leka)	+	+	±	—	+	0	+	—
U	0	+	—	—	str	0	str	—
P with Ka	±	+	—	—	—	—	—	—
Sk	+	+	—	+	—	—	+	—
Cz	?	—	—	—	—	—	+	—
Sn	—	+	—	—	+	—	+	±
SC	sc	+	—	+	str	—	str	—
Čak	sc	+	—	—	str	—	str	—

Explanation of marks: +, —, and 0 as in the preceding table; ? = no umambiguous evidence; sc = only few scattered examples; str = no direct evidence of metatony but stress shift as under metatony. The possibility that brevity in Mo Sn and SC comes from length under RP later shortened as every RP (See 29, 7) is not taken into account in the chart.

Vertically, the only category in which metatony is found fairly consistently is the gen pl, an expressly morphological category in which metatony could easily have been an extension of what occurred in the gen pl under FP. Horizontally, it is only in R Leka-type dialects that the results of metatony are to any great extent found. In this case, however, one has to bear in mind that they occur on *o* alone, never on *e*; and they represent a qualitative alteration of *o* with no evidence whatsoever of a particular pitch contour ever occurring on this *o*.

Another area of mutations was in Sk, Cz, and Sn, with the radiating center sometimes in one of these languages, sometimes in another, e.g. for monosyllabic nouns in Sk, for pres forms in Sn, for *sũša* type in Cz. It is obvious that these were overlapping developments, each spreading from its own center but not powerful enough to cover any broader area. It may be assumed that basically they were but local extensions onto brevities of the metatony on vowels with FP. Characteristically, although SC, so sensitive to melodic design, did retract stress, ultimately no pitch or quantity mutation ensued: the development remained limited to its initial stage (But see 29,7). Schematically this may be presented as follows:

First stage: stress retraction onto short vowel, shared by all or most Sl dialects;

Second stage: lengthening and/or narrowing of the newly stressed vowel, the combination of these two alterations varying from one Sl dialect (language) to another;

Third stage: transference of NRP onto the newly lengthened vowel. Directly demonstrable only in Sn.

For tabular presentation of the status of NFP on the original RP, R, Br and U may be grouped together, along with P:

	Monosyllabic nouns	Gen pl	Compound adj	Pres tense root	Type *sũša*	Nom pl neut
ESl and P	—	—	—	—	—	—
Sk	—	—	—	—	—	—
Cz	—	+	+ ?	—	—	—
Sn	—	+	+	+	+	+
SC	—	+	—	—	—	—
Čak	—	+	—	+	—	—
Bg	—	+ ?	—	—	—	—

NFP had, as can be seen from the table, only one strong center: Sn. From there, in separate categories, it spread to the north (Cz) and S (SC or its dialects). Only in the case of the gen pl did it cover a larger continuous area; but pitch mutations in this category, as shown above, had extra-phonemic prerequisites for their spread. It is especially significant that NFP is not found even in Sn in monosyllabic nouns, the category in which phonetic stimuli for metatony were most forceful. This suggests that NFP was a later phenomenon than NRP. In a sense it was a mirror development of the latter, but gave

only a weak reverse image. In those morphological categories in which the alternation FP: NRP became typical this relationship was transferred, within the same categories, onto RP. Its natural alternant was NFP. A peculiar proportion worked here:

$$\text{FP} : \text{NRP} = \text{RP} : x,$$

with x = NFP.

Thus, in its distribution, NFP became in a sense a counterpart of NRP. But it was not so historically: the two mutations were not simultaneous; moreover, NFP never succeeded in covering the whole range of categories which were marked by NRP. NFP differed from NRP in one more respect. NRP was a qualitatively new intonation (in those dialects in which it was an intonation). For NFP there is no evidence that it ever was different from the original FP. That, unlike FP (See section 2), NFP was not shifted in Sn may simply mean that NFP arose when the stress shift from the original FP onto the next syllable was completed. Once more this shows that chronologically NFP is a phenomenon of a later period. Thus, NFP was not CS, nor was it shared by most Sl dialects[34].

But the CS character of NRP ought not to be exaggerated either. After all it is only in Sn and SC dialects that it was an actual pitch mutation. In P, Sk, and Cz it is represented by lengthening alone; and there is no evidence, at least for the metatony conditioned by the loss of stressability in *jers* (for specification see section 16), that these lengthenings were ever connected with any change in the character of the pitch. For ESl even that much is not certain: one is only dealing with stress retractions and occasionally qualitative changes in vowels. One should not, in search of common denominators and reconstructed common forms, automatically substitute all Sn and SC changes in pitch for WSl lengthenings and ESl stress shifts. It is quite possible that in cases of NRP on FP caused by the loss of stressability in *jers* there never had been any CS development but rather several local responses to a common challenge: stress shift in ESl; stress shift and lengthening in P. Sk and Cz; stress shift, lengthening, and pitch mutation in Sn and SC. If so, the term metatony as

[34] Vestiges of NFP were indicated in Snc (Lehr-Spławiński). The vowels which supposedly had NFP do not differ either in pitch (which did not exist as a phonemic category in recorded Snc) or in quality from the normal reflexes of short vowels. But the stress in Snc, which is usually retracted one syllable toward the beginning of the word, is kept on these syllables without any shift. Thus lack of stress retraction on reflexes of short vowels may be considered an indication of NFP. As follows from this description, NFP is, then, identifiable in polysyllabic words only. There it is found in the gen pl, in the instr sg of fem subst, in compound adj, in the pres of third and fourth class verbs and in the nom pl of neut subst.

In some of these categories the Snc stress place may have been conditioned morphologically (Stang). Yet the coincidence of the categories affected in Snc with those affected in Sn is too striking to be glossed over. Then, Snc data make possible that in some Sl dialects of the Baltic area there was the same „reverse reflex“ to NRP in the form of NFP as in Sn, at least in such categories as compound adj and the pres tense of third and fourth class verbs.

applied to all the changes examined in this chapter may be salvaged only by depriving it of its etymological connotations (change of tone) and assigning to it the broad meaning of any alteration in the accentual structure of the words involved, as suggested in section 1, a concept which fits much better into the framework of the history of the Slavs at the time of these developments. Consequently, NRP would mean stress shift accompanied by pitch mutation only in SC (Čak and SD) and probably Sn; lengthening (or retention of length) in P, Sk, and Cz; and mere stress shift in ESl (Phonetically this entailed length in ESl as well insofar as length became the concomitant of the stress). For standard SC, in which NRP became ̑, i.e. coincided with the old FP, and pretonic length under original FP was preserved in any case, the NRP seems likewise to be just a stress shift.

A special question is whether there was any connection between metatony and the preservation of length in the pretonic syllable. Metatony consisted basically of change(s) in the accentual contour of the pretonic vowel when it attracted stress from the following syllable. Metatonic changes were generated by a stress shift, and whether they consisted of lengthening alone or in conjunction with pitch mutation, they meant in a sense the elevation of the pretonic syllable to a prominence, caused ultimately by a downgrading of the vowel in the next syllable or syllables, which again could be of various types, from a loss of stress (compound adj) through loss of dissyllabicity (contractions in the verbs of the type *pītām*) to the complete loss of the vowel in question (weak *jers*).

There is some similarity between these processes and the retention of length in pretonic syllables as treated in 32, 4 and 5. Stressed vowels in Sl of the time largely lost their length (for geographical qualifications of this statement see section 17); preservation of length in pretonic syllables may be considered a response to this loss in the next syllable. The similarity, however, must not be overestimated. There were two essential differences between the preservation of pretonic length and the metatony on pretonic syllables. Preservation of length took place also before original brevities which underwent no change or at least no phonemic change[35]. And, as the very term preservation shows, there were no new lengths developed on pretonic syllables which did not take over the stress. In other words, this was a passive state, a resistence to changes, while the metatony was a dynamic process. Nevertheless it is significant that pretonic syllables in either case proved to be "stronger" than other syllables: either they grew in prominence (if attracting stress) or at least they preserved their *status quo*. It is not impossible that some later phenomena in Sl were tied in with this treatment of pretonic syllables, such as later SC (Štok) fifteenth-century retraction of stress onto former pretonic syllables (**rūdà* > *rúda* 'ore'), to a certain extent parallelled by Sn retraction of final stress onto the next-

[35] Whether there was an actual (extra-phonemic) shortening of these vowels within the phonemic category of brevity may be a matter of speculation, but can hardly be proved.

to-last syllable (**dušà* > *dúša* 'soul'); an analogous shift in Pb, but only onto long vowels (*dáu̯šă* 'soul' but *rebrû* < *rebrò* 'rib', without any shift); and, in R, the resistence of pretonic syllables to reduction, otherwise typical of unstressed syllables ([*nagá*], not +[*nəgá*], spelled *noga* 'foot').

15. Area. Geographic boundaries of metatonic changes are presented in section 14, both in the tables and in the discussion of the latter. It may be briefly reiterated here that NRP on vowels with FP was in principle a CS phenomenon, insofar as it was conditioned phonetically. It was limited to Central Sl in the case of final vowels (Sk, Sn, SC) and in the nom pl of neut subst (Sn, Čak). Within this CS framework, however, NRP was not the same phenomenon in various areas. As a new pitch, in the strict sense of the word, it is demonstrable for Sn and dialects of SC; in P, Sk, and Cz it meant lengthening (FP regularly became short in these languages); in R, Br, and U merely a stress shift.

On brevities the stress retraction occurred, in all probability, in all Sl dialects capable of showing it. Lengthening and/or narrowing is demonstrable in R dialects of the Leka-type, in a limited number of categories in Sk and even more limitedly in P (monosyllabic nouns, gen pl) and Cz (type of *vůle*). Metatony in the strict sense occurred in Sn alone, possibly in SC.

Finally, NFP characterized Sn, with a few offshoots on the one hand in Cz and on the other in SC; and, independently, the Baltic Sl dialects.

16. Chronology. Two strata may be immediately distinguished in the development of NRP, both on vowels with the original FP and on brevities. One resulted from stress retractions not conditioned by any changes in *jers*, nor by their presence. This was the metatony in the roots of pres tense verbs (R *-bóret* 'fight', SC *pîtā* 'ask') and in words of the type (SC) *sûša*. The other was conditioned by the loss of stressability in *jers*, monosyllabic nouns and the gen pl being the most typical examples. The metatony on compound adj goes with the second stratum.

Of these, the first must be older. This is shown by both general considerations and some specific facts. The retraction of stress in words of the type *sûša* is represented in all the Sl languages capable of showing it. Moreover, not only the retraction of stress but the exceptions to it (of the type R *dušá* 'soul') are of a general character. A certain period of common developments was necessary for the stabilization of this distribution, which would hardly have been possible after the loss of stressability in *jers*, when the centrifugal forces in Sl became too strong.

In words of the type *sûša* *j* was lost, having merged with the preceding consonant (See 14, 1). This applies as well to third class verbs with stress retraction. The facts of Mo Sl strongly suggest that the merger of *j* with the preceding consonant had a bearing on stress. From the evidence we have, the stress in words with a consonant which emerged from a *j*-cluster is regulated by morphological categories with little or no relation to the nature of the

pitch on the root vowel. Four patterns are fairly well delineated: masc subst, fem subst, neut subst, and verbs. Such a distribution could not be original. It must have stemmed from a change in some of the forms in paradigms, a change which had disturbed the original balance and caused levelings. The material is not easy to interpret, because in various categories levelings obviously were carried out in opposite directions, and only a tentative explanation may be attempted.

Final stress was generalized in masc subst with the stem ending in a consonant followed by *j*. Cf. R: *bič, -á* 'whip', *boršč, -á* 'cabbage soup', *dožd', -á* 'rain', *ërš, -á* 'ruff', *ëž, -á* 'hedgehog', *guž, -á* 'tug', *klešč, -á* 'tick', *ključ, -á* 'key', *kon', -á* 'horse', *korábl', -á* 'boat', *krjaž, -á* 'mountain ridge' (MR. Now usually *-a*), *lešč, -á* 'bream', *luč, -á* 'ray', *lun', -á* 'hen-harrier', *meč, -á* 'sword', *mjač, -á* 'ball', *nož, -á* 'knife', *ogon', -á* 'fire' (involved in the group secondarily), *plašč, -á* 'cloak', *pljušč, -á* 'ivy' (with vacillations in MR), *pryšč, -á* 'pimple', *pyž, -á* 'wad', *striž, -á* 'martlet', *svišč, -á* 'fistula', *syč, -á* 'brown owl', *šiš, -á* 'fig', *už, -á* 'grass-snake', *vožd', -á* 'leader', *xlyšč, -á* 'fop', *xrjašč, -á* 'cartilage', *xrušč, -á* 'cockchafer', *xvošč, -á* 'horsetail'. As a rule, correspondences in the other Sl languages agree with R, with only a few exceptions: Čak *bȉč* : *bȉča*; not typical are SC *kȍrāb(alj)*, *pljȕšt* : *pljȕšta*, words of a bookish character (the normally used words are *lâđa*, *bȑšljan*). In R itself the number of deviations is negligible: subst denoting persons *muž* : *múža* 'husband', *stórož* : *stóroža* 'guard' and deverbatives (*klič, -a* 'call', *plač, -a* 'weeping'). Cf. also the pron *naš* : *náša* 'our', *vaš* : *váša* 'your'.

In fem subst, conversely, the root stress was generalized. Besides the examples cited in section 13 cf. R *čáša* 'bowl', *onúča* 'cloth for feet', *píšča* 'food', *túča* 'cloud', U *nóčvy* 'trough', etc. Exceptions, a little more numerous than in the masc but still a small percentage, have mobile stress, final in the nom sg (R *dušá* 'soul', *mežá* 'boundary', *svečá* 'candle', *zemljá* 'earth'), not so often final throughout: *gospožá* 'mistress', *močá* 'urine'. R *konopljá* 'hemp' must have secondary final stress, as evidenced by the agreement of U *konóplja* with SC *kònoplja*.

Neut subst also generalized the root stress: R *góre* 'woe', *móre* 'sea', *póle* 'field', *véče* 'popular assembly'. In their known forms they seem to have escaped any metatony. But cf. R *plečó* 'shoulder'.

In verbs as a rule there is an opposition between the 1 sg with final stress and other persons with root stress: R *steljú* : *stélet* 'spread'.

It may be assumed that generally the merger of *j* with a preceding consonant caused a shift of stress onto the preceding syllable, unless the stress occured on a diphthong with RP. Hence **st*$_\circ$*alj*$_\circ$*àtu* > **st*$_\circ$*àl'*$_\circ$*atu*, 3 sg, with the stress in *st*$_\circ$*alj*$_\circ$*á*N, 1 sg, remaining unshifted because it had RP. In fem subst the change affected the nom sg (**s*$_\circ$*auxj*$_\circ$*á* > **s*$_\circ$*ãuš*$_\circ$*ā*), but not the acc sg (**s*$_\circ$*âuxj*$_\circ$*a*N), where the stress was already on the first syllable. This discrepancy in the type of pitch produced certain fluctuations which were responsible for deviating cases like those reflected in OCz texts, where along with the expected form *dúše* (nom sg), with the reflex of NRP, *duše* also is attested,

with brevity reflecting FP. The latter prevailed, as is well known, in Mo Cz.

In masc subst the situation is less clear. Unless one wants to ascribe the generalization of final stress to some morphological factor (influence of *i*-stems ?), the following explanation may be tentatively suggested. Stress retraction in masc subst of this type was impossible because the root vowel was stressed. The response to the loss of *j* was a shifting of the stress in the opposite direction, i.e. onto the final, desinential syllable. Metatony on the vowel of the initial syllable occurred later, when final *jers* lost their stressability and, consequently, in the nom sg alone. This stress advancement affected only words in which there was a *jer*[36], so that neut subst of the type *pole*, as well as the acc sg of fem subst of the type (R) *súšu* were spared. Thus it is important to distinguish metatony connected with the loss of *j* alone from that caused by the loss of *j* and subsequent loss of a *jer*.

The two types, exemplified by (R) *súša* and *kon'*, *-á* recall in a certain respect the change in quantity and/or quality of vowels caused in a later period by the loss of stressability in *jers*. While usually the preceding vowel was lengthened (type of SC *nôs* vs. *nȍsa* 'nose'), where there was no possibility of lengthening before the changing syllable, it was materialized in the following syllable (type of SC *stô* 'hundred').

Illustrated by (OCS) *suša* for fem subst, *steljǫ* for verbs and *konjь* for masc subst the whole development may be presented in the following stages[37]:

	Subst fem		Verb		Subst masc	
	nom sg	acc sg	1 sg	2 sg	nom sg	gen pl
1. After Fortunatov's law	*suxjá*	*sûxja*N	*steljó*N	*steljèxi*	*kònjus*	*konjó*(N) > *konjò*
2. Loss of *j* and stress shifts	*sũša*	*sũšǫ*	*stel'ǫ́*	*ste̍l'eši*	*kon'i̍s*	*ko̍n'i*
3. Levelings	*sũša*	*sũšǫ*	*stel'ǫ́*	*ste̍l'eši*	*kon'i̍*	*ko̍n'i*
4. Loss of stressability in *jers*	*sũša*	*sũšǫ*	*stel'ǫ́*	*ste̍l'ešь*	*ko̍n'ь*	*ko̍n'ь*[38]

Contractions in verbs of type SC *pĩtā* also associated with loss of *j* may belong to a somewhat later time: they remained alien to ESl and spread later to WSl. But they are well attested in OCS, especially in Mar with its Serbian background (*dělaatъ* 'work', 3 sg, *znaate* 'know', 2 pl, *sъbiraatъ* 'collect', 3 sg)

[36] Reference to a *jer* for the early stages of metatony, associated with loss of *j* in consonantal clusters, is made for the sake of simplification. Actually there were no *jers* yet. What mattered at that time probably was closure of syllables (*-s* was not yet lost). Reference to *jers* is appropriate in terms of later development and makes the formula more economical: *-ŭs* did change into *-ъ*, *-ĭs* into *-ь*.

[37] For the sake of simplification $_{o}$*a*, $_{o}$*ā*, $_{o}$*au* are represented by their later reflexes *o*, *a*, *u* respectively. ˜ denotes NRP on lengths, ˈ NRP on brevities. Intonations of unstressed syllables are unmarked. Stages affected by changes in pitch are framed (both old and new situations).

[38] As the NRP on the nom sg and gen pl in words of the *konjь* type arose at a different time, this could have affected the quality of *o*. See below.

and there is no reason to suppose that their development in all the dialects took place after the loss of *jers*.

Besides the suggested general chronological stratification of metatonic changes, there are some specific facts in Mo Sl which cast light on the chronology of metatonic developments. Interesting and important evidence is furnished in this respect by the Sn dialects of *Dolênsko* (Lower Carinthia). Where standard Sn has ọ and ẹ (closed *o* and *e*), these dialects distinguish ọ, ẹ and ǫ, ę, the former being roughly [ọᵤ], [ẹᵢ], the latter [ᵤọ], [ᵢẹ][39]. The distribution of these vowels in the metatonic forms is as follows: in subst of the *sûša* type and in pres tense verbs the vowels used are ǫ, ę: *vǫ́lja* 'will', *tǫ́ne* 'drown', *nǫ́si* 'carry'. In the categories in which metatony was brought about by the weakening of *jers*, ǫ, ę do not occur: *nóg* 'foot', gen pl, *bòb* 'bean', *tẹ́kel* 'run', pret masc, *dóbri* 'good' (but *dǫ́ber*). Obviously one is dealing here with two chronological layers; Sn facts continue those of CS, though in a new form. To be sure, this evidence concerns only the originally short vowels. But, as shown in section 14, metatony on brevities was an outgrowth of metatony on vowels with FP. If two chronological layers can be discovered on brevities, it might be presumed that the metatony had two layers on FP, too.

The material concerning Sn as a whole, as well as its Lower Carinthian dialects, enables one to go further in establishing the chronology of metatony in its strata and to see that the second stratum, generated by changes in the status of *jers*, actually consisted in turn of two separate layers. In both Lower Carinthian dialects, as seen even from the examples cited above, and in standard Sn there is also a difference in the reflexes of *o* and *e* originally followed by a *jer* in the gen pl and the masc sg of the *-l-* part, on the one hand, and the monosyllabic masc subst and compound adj on the other: while identical in pitch[40] they differ in the character of *o* and *e*. This indicates that here again one deals with two alterations not of the same time.

Another Sl language confirms the assumption of three chronological layers in Sl metatony: Ukrainian displays twofold reflexes of metatonized vowels in its pleophonic groups, i.e. on the original FP. As a rule *o* and *e* in pleophonic groups do not yield *i* in the syllables which became closed after the loss of *jers*: *niž* 'knife' but *moróz* 'frost' (See 27, 12). Nor do they regularly in metatonic pleophonic groups: cf. *sûša*-type subst: *storóža* 'guard'; verbs: *molótyt'* 'thresh', 3 sg ; nom sg masc: *koról* 'king;' and compound adj: *zdoróvyj* 'healthy'. But one does find *i* in those two categories in which Sn dialects have ǫ and ę: the gen pl (*holová* : *holív* 'head') and the *-l-* past part (*voloktý* : *volík* 'drag', *sterehtý* : *sterih* 'guard'). Historically these two categories differ from other categories involved, in that *j* played no part at all in the former while the latter all had *j* and lost it.

In analyzing these U-Sn similarities one has to remember that, as mentioned above, the Sn dialects preserved the distinctions on brevities, U on FP.

[39] Unmarked letters *o*, *e* denoting open vowels [ɔ], [ɛ].

[40] Different pitch in the nom sg masc (*nòž*) is secondary (´ > ` in final syllables unless this is precluded by special factors).

Once more the identity of the stratification corroborates the assumption that metatony on brevities was an expansion of metatony on FP.

Thus the chronological stratification of metatony is as follows:

Stage 1: Cases in which there was *j*, subsequently lost, but no *jers*: subst of the type (SC) *sȗša*, pres tense of verbs (SC *mlȃtī*), probably verbs with contraction (type SC *pȋtā*): Sn *ǫ́*: *vǫ́lja, tǫ́ne*; U *ó*: *storóža, molótyt'*;

Stage 2: Cases in which there were both *j* and a *jer*, both subsequently lost: monosyllabic nouns, compound adj: Sn *ó* (or *ò*): *nòž, dóbri*; U *ó*: *koról', zdoróvyj*;

Stage 3: Cases in which only *jers* are involved, but no *j*: gen pl, *-l-* past part, masc: Sn *ọ́*: *nọ́g, tẹ́kel*; U *í*: *holív, volík*[41].

In proceeding to the question of the chronology of metatony in relation to other phonetic changes in Sl, an indication is usually sought in P forms of the type *stróża* 'watching duty', *młóci* 'thresh', 3 sg; they supposedly show that lengthening (which for P is synonymous with NRP in these cases) occurred after both the split of *ₒa* into *ŏ* and *ā* and the metathesis of *r*-diphthongs. Otherwise P would not have lengthened *o*. In regard to metatony on brevities, all the Sl languages show that NRP could have developed only after the split of *ₒa*, but this was in any case a secondary layer in metatony. Another indication is easily obtainable for the second and third strata of the metatony: they could have arisen only after the loss of stressabilty of *jers*.

It is to be inferred, thus, that metatony even in its oldest stratum could not have occurred before the middle of the ninth century. This date agrees well with those layers of metatony which were caused by the loss of stressability in *jers* and their subsequent loss in weak positions (See 29, 12); but it runs counter to the chronology of the elimination of *j*-clusters which fell into the fifth-eighth centuries (See 14, 6).

The apparent contradiction may be cleared up if one remembers that NRP at its inception affected vowels with FP, i.e. basically diphthongs or reflexes of diphthongs. Especially in *r* and *l*-diphthongs it did not affect the core vowel alone but the diphthong as a unity; in, e.g., **stₒaržₒā* the change consisted of 1) a stress shift onto the first syllable and 2) a concomitant mutation of pitch coutour of the diphthong in those dialects which did not limit the change to its first stage. Length of the core vowel as such is a later phenomenon stemming from the "de-diphthongization" and metathesis of diphthongs. Consequently, the earliest layer of metatonic changes (stage 1) can be placed in the seventh – eighth century[42].

[41] What is characterized here as the second stage could actually have been a result of two successive metatonies: the first conditioned by the loss of *j* (and concurrent with stage 1) and the second caused by changes in the status of *jers* (and concurrent with stage 3). With this interpretation one returns to the concept of two chronological strata in metatony.

[42] These considerations make possible a qualification in our understanding of the nature of metatony. In sections 1 and 14 it was suggested that metatony covered phenomena varying according to dialects: either pitch mutation or lengthening, both combined with stress shift, or just the latter. While this is true for the final

The rise of NFP is a problem of history of Sn and, possibly, the Baltic dialects of Sl. Historians of Sn place it in the time between the tenth and the twelfth centuries (Ramovš).

17. Conditions and effects. Metatony partly coincided with, and partly followed, the sweeping shortenings of long vowels which Sl was undergoing in and after the time of the disintegration of CS (See 32, 6). The decline of the opposition in quantity was hampered in the Adro-Baltic area first by the rise of new lengths due to contractions and then by lengthenings brought about by metatony. This contributed to the restoration of the opposition in quantity, but it revived oppositions in pitch only in the Čak and SD dialects of SC, and in Sn. As shown in 32, 9, in the course of shortenings of long vowels opposition in pitch was lost in the dialects of the Adro-Baltic area in essentially all unstressed syllables, with the exception of pretonic syllables in SC (and possibly Sn)[43]. Contractions, while bringing new lengths, hardly reintroduced oppositions in pitch in unstressed syllables.

The effect of the shortenings of long vowels in regard to oppositions in pitch, however, went deeper than that. The oppositions in pitch were as a rule removed from stressed syllables as well. In Cz length in stressed syllables was preserved only under RP; FP was shortened and, as there was no opposition in pitch on brevities, this meant the elimination of FP from the phonemic system of the language. By the same token RP became identical with length and thus phonemically irrelevant as a type of pitch. In other languages of the Adro-Baltic group it was RP which shortened, and FP became identified with length; but the final result for the phonemic system was the same: no longer any opposition in pitch under stress.

This opposition could have been restored only by the rise of a new type of pitch. This was the NRP in Čak and the SD areas of SC, and in Sn. Here it differed from FP, so that the new opposition on long vowels arose:

FP vs. NRP

replacing the old one, by then defunct:

FP vs. RP.

It was typical of the new period in the history of Sl prosodic systems that NRP arose only under stress: the original intonations were not bound to stressed syllables alone.

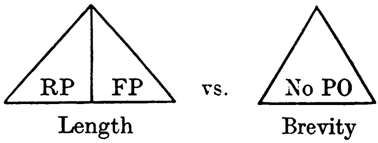
In the remainder of SC, however, as well as in the other languages of the Adro-Baltic group, NRP did not resurrect pitch oppositions. It was just a length, which joined the other preserved lengths and the lengths arisen through con-

results of metatony, it is to be specified in discussing the progress of metatony, in that the first stage, for an area broader than Sn and SC, was stress shift combined with the rise of a new pitch on the vowels with original FP.

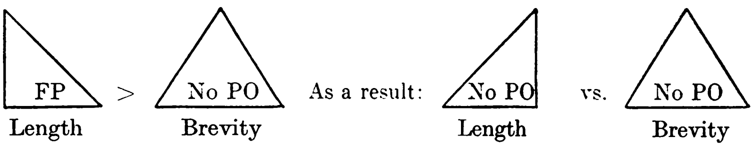
[43] It is possible that the elimination of pitch opposition on unstressed syllables preceded the loss of length in them, but apparently there is no means of establishing succession of the two developments.

tractions, without differing from them in any respect. Thus, e.g. for Cz the scheme of the development was:

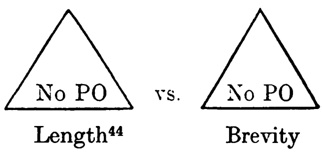
1) Situation before the metatony:



2) Shortening of FP (along with positional shortenings of both RP and FP):



3) New lengthenings (NRP). No ensuing change in the pattern:



In SC (except Čak and SD) it was the same, with the difference that phonetically length identified itself with FP, so that genetically length is FP and NRP[45].

Thus in all three cases the departure from the "vocalic" type of language was partially arrested. But the newly reshaped accentual system was excessively rich for a language which was no longer "vocalic". Free mobile stress, opposition in quantity and, dialectally, in pitch were used in this system. The further history of the Sl prosodic systems in the area is the history of the abandonment or limitation of one or another element of this new accentual system which had emerged from what seems to have been the complete decline of a structurally similar CS system.

It was the third upheaval in the Sl prosodic system. The first had been the abolition of IE stress and the transition to opposition in pitch. From this, the new stress had developed according to Hirt's and Fortunatov's laws, resulting

[44] Phonetically RP; genetically RP and NRP. PO in the diagrams stands for opposition in pitch.

[45] The developments are presented here in a simplified manner. The first stage of metatony is disregarded and metatony as a whole is presented as an one-time development. In reality, NRP on words of the type *sûša* and in third class verbs arose before shortenings of vowels, and it is possible that it was this relatively short-lived system of three pitches on long vowels which accelerated the rebuilding of the entire accentual pattern and the loss of either FP or RP or both. Basically, however, this complication does not impair the above schemes.

in an ultra-rich system of prosodic features which persisted, however, as long as CS was a "vocalic" language with an extremely simplified syllabic structure (type CV or CCV, ideally). The complications in the syllable pattern in disintegrating CS ushered in the second upheaval: a series of shortenings which eventually led to the abandonment of phonemic pitch and length. Completed in ESl (See below), this process was interrupted and reversed in the Adro-Baltic area. The complicated prosodic system restored again in this third upheaval (contractions and metatony) stood now in acute contradiction to the "consonantal" structure of the languages in the area. A fourth upheaval was to come, but it was to come in the separate languages, at different times, so that it would be more appropriate to speak about a series of "fourth upheavals".

Several patterns emerged from these "fourth upheavals". The most conservative proved to be SC: in its standard form, based on the bulk of the Štok dialects, it lost only the distinction of length in all pretonic syllables and stressability of final syllables in di- and polysyllabic words. Moreover, by the retraction of the stress onto the preceding syllable, which occurred in the fifteenth century, it reintroduced the opposition in pitch in both long and short (stressed) syllables. Thus freedom of stress, length and pitch is restricted, but none of the three is completely abolished in the economy of the SC prosodic system. As a result, this system bears the seeds of instability, and it is not surprising that the accentual pattern in SC dialects varies widely, presenting what may at first seem to be an inordinate number of combinations[46]. On the other hand, it is hardly accidental that SC, in harmony with the preservation of the pattern of the late CS accentual system (not of the system as such!), went further than any other Sl language in eliminating consonantal clusters and, thus, tending to return to a "vocalic" type of language.

Sn went one step farther. This language as fixed in the late nineteenth century preserved mobile free stress and opposition in length and pitch only under stress. Since that time there has been a noticeable tendency in Sn to drop phonemic pitch even under stress, and a possible further simplification threatens to make stress subordinate to quantity or vice versa (Stankiewicz).

Sk and Cz chose another way. After sacrificing pitch they lost free mobile stress (Cz by the thirteenth century at the latest). Being fixed on the initial syllable of the word, the stress became a mark of word boundary devoid of any immediate phonemic function. This was also the situation in So, at least till the twelfth century and of P until the sixteenth century, with the difference that in P the stress eventually became fixed on the penultimate rather than the initial syllable. NKa and Pb have preserved the free stress, and have only partially restricted it as to place and mobility.

In the sixteenth century a new development occurred in P: abolition of

[46] As SC dialects on their way toward the gradual abolition of phonemic pitch and quantity to a certain extent repeat the development of early Sl, it is noteworthy that there are among them some that shorten lengths under stress, as did early Sl, for instance the dialect of Vrbanj (Hvar).

phonemic quantity. This made P a language with virtually no phonemic prosodic features, an extreme in its departure from the early Sl pattern. A similar development may be assumed for So, with its fixed word-initial stress. M evolved to the same type: it has lost phonemic quantity and fixed its stress on the prepenultimate syllable. It is known how this drastic switch occurred in P: it was made possible by the split of most vowels in qualitatively different sounds, if long, in relation to their short counterparts. This made length redundant and led to its loss. The development in M has not been studied adequately.

Thus from the point of view of their prosodic structures the Sl languages of the Adro-Baltic area may be classified as follows:

a. Languages with opposition in pitch, length and stress, though with certain positional restrictions: SC, till recently Sn;

b. Languages with opposition in stress and length: SC before the fifteenth century, Sn as it emerges now (In Sn, length under stress only);

c. Languages without opposition in pitch and stress, but with opposition in quantity: Sk, Cz; P till the sixteenth century;

d. Languages without any prosodic oppositions: P after the sixteenth century, So, M.

Quite a different development marked the remaining Sl languages, which thus constitute one more type in respect to prosody:

e. Languages without opposition in pitch and quantity but with opposition in stress: R, Br, U, Bg; limitedly Pb, NKa.

A separate development of the accentual system in R, Br, and U began with the fact that in them no contractions took place, so that shortenings of long vowels could have gone on unimpeded. There is, however, no indication that these shortenings ever followed the lines set up for the languages of the Adro-Baltic group (See 32, 4–5). Rather length was preserved, in the east, under stress and lost in unaccented syllables, except possibly the pretonic. As a result of the new bond between length and stress, one became a concomitant of the other. This resulted in the automatic use of length under stress, in other words brevity became inadmissible under stress. It is proved experimentally that normally R stress is phonetically first of all length (Mahnken and Braun) and probably this applies to Br and U as well. The situation is not so clear in pretonic syllables. To judge by a certain prominence of these syllables as typical of R and Br (but not U), it is possible that length was originally retained in this position as well, and then dialectally generalized, associated with the position and consequently deprived of phonemic function[47].

Thus R, Br, and U preserved length phonetically but eliminated it phonemically, a treatment which Sk and Cz applied to stress.

[47] If this assumption is correct, the chronology of the generalization of length under stress and in pretonic syllables, at least in Br and SR, should have been different. A generalization of length in pretonic syllables could have occurred before the rise of *akan'e* and could have contributed to the beginning of *akan'e*; generalization of length in stressed syllables came later, so that *o* lenghthened in this position without yielding *a*.

Bg in a typological classification of the Sl prosodic systems joined ESl with its free mobile stress but no phonemic pitch and length. This is the more remarkable inasmuch as it is possible that Bg had not only NRP but also some traces of NFP (in the gen pl. See section 4). If so, this means that NRP in Bg was not just a stress shift but a certain intonational pattern: as shown in section 14, NFP was a reverse mirror development of NRP; and consequently the early prosodic developments of Bg were not identical with those of R, Br and U. Chronologically, Bg preserved opposition in pitch and length or in length alone up to the time when the postpositive article developed in the language (See 4,4), i. e. until the MBg period[48].

On the whole, the typological wealth and variety of Sl prosodic patterns grew out of the contradictions and opulence of the prosodic system of disintegrating CS and the Sl dialects immediately thereafter.

APPENDIX

Table of regular correspondences between pitch in Modern Slavic and Common Slavic

1. Slovenian.

̑ continues: 1. Original FP (*brẹ̑g*)
2. Brevity in syllables closed after the loss of unstressed *jers* (*nọ̑s*)
3. NFP (*dẹ̑la*, 3 sg)
4. Stress advanced from the original FP or brevity (*nosâ*, gen sg < **nòsa*, *zlatọ̑* < **zlâto*)

´ continues: 1. Original RP in open syllables (*vrána*)
2. NRP on original FP and brevities (*králj*, *vólja*)
3. Stress shifted from the final syllable (*dúša*, *žéna*)

` continues: 1. Original RP in monosyllabic words and on final vowels (*bràt*, *temà*)
2. Brevity in final open syllables and in syllables closed after the loss of a stressed *jer* (*dnọ̀*, *bòb*)

2. Serbo-Croatian.

̂ continues: 1. Original FP (*brêg*)
2. Brevity in syllables closed after the loss of unstressed *jers* (*nôs*)
3. NRP on original FP (*krâlj*)
4. Original RP and brevity lengthened in SC before resonants in closed syllables (*stârca*, gen sg, vs. *stȁrac*, nom sg)

̏ continues: 1. RP (*brȁt*)
2. Brevity in open syllables and in syllables closed after the loss of a stressed *jer* (*kȍlo*, *kȍ*, *bȍb*)

´ continues: 1. Pretonic FP (*dúša*)
2. Pretonic RP (*trúba*)

` continues pretonic brevity (*žèna*).

3. Čakavian (Novī).

̂ continues: 1. Original FP (*brîg*)
2. Brevity in syllables closed after the loss of an unstressed *jer* (*nôs*)

[48] There are some indications that in these developments WU was closer to Bg than to NEU, but they need verification.

'' continues: 1. Original RP (*brȁt*)

2. Brevity in open syllables and in syllables closed after the loss of a stressed *jer* (*kȍlo, dnȍ, pȍp*)

' continues: 1. NRP on the original FP (*králj*)

2. Original RP and brevity lengthened before a resonant in the closed syllable (*stárca*, gen sg, vs. *stȁrac*, nom sg).

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34. OUTLOOK: COMMON SLAVIC AND SUBSEQUENT DEVELOPMENTS IN SLAVIC

1. Phonemic system of disintegrating Common Slavic. 2. Nasal vowels. 3. Elimination of *y*. 4. Elimination of *ě*. 5. Syllabic sonants. 6. Prosodic features. 7. Palatalization. 8. Elimination of (or curtailments in) the hushing series of consonants. 9. *x* and *h* (*γ*) in Slavic. 10. Remarks on typology of Slavic phonemic systems. 11. Recurrent developments.

1. Although the historical unity of the Slavs ended at the latest with Sl settlement south of the Carpathian Mountains, in the Balkan Peninsula, in the basin of the Elbe, and in what now is Northern and Central Eastern Russia, linguistic community lasted longer, not only in the preservation of a common heritage but also in the sharing of new developments. Thus, Sl historical unity extended to the sixth century at the latest, but a certain amount of linguistic unity continued for a century or more. To be sure, after the monophthongization of *u*-diphthongs in the sixth or seventh century no phonetic change embraced all Sl dialects or embraced them all in the same way. However, most changes of the time had some common features in all or almost all parts of the Sl area. For example, everywhere $\bar{u}_1$ yielded *y*, $_{\circ}\bar{a}$ changed into *ā*, under stress $_{\circ}a$ changed into *o*; $_{\circ}aRC$- became R*a*C- under RP, final *jers* were lost in disyllabic and polysyllabic words and at least some common phenomena of a metatonic nature arose.

On the other hand, none of the phonetic changes of the time were carried out completely identically. Dialect differentiation continuously advanced. After metatony and the loss of *jers* one can no longer speak of any Sl linguistic community, even when developments common to all Slavic areas in the post-CS period are meant.

And yet, even though subsequent phonetic developments were distinct in every Sl language after this time, the chief problems to be solved were determined by and inherent in the system inherited from CS. The minutiae of these developments are the subject of the histories of each particular language. For one who has followed the evolution of CS, however, an examination of the main reasons for these developments (as conditioned by the CS system) and the main lines of response to these common challenges constitutes a logical outlook.

The latest common system of vowels in Sl was represented in 29,13 as

$$\begin{array}{cccccccccc} & & \bar{\imath} & \bar{u} & + & \bar{y} & & & \breve{\imath} & \breve{u} \\ \bar{e} & + & & & & & + (\bar{ę} & \bar{ǫ}) & + & \breve{e} & \breve{o} \\ & & & \bar{a} & & & & & & \end{array}$$

The common Sl character of this system is to a certain extent illusory. It does not take into account intonations, shortenings of long vowels in certain positions (which differed from one area to another), or contractions. The impact of palatalizations of consonants in certain areas is likewise not taken into consideration, although in some of the dialects, for example, such palatalizations could cause *e* and *o* to merge into a single phoneme. Certain immediate changes brought about by the loss of *jers* and by shifts in the accent system are also shown in the tables presented in 29,13. Nevertheless these tables are not quite adequate, for unavoidably they present as a unity something which no longer was a complete unity; they conceal the break-up of Sl which was taking place. And yet, although the artificiality of these tables is undeniable, they are useful in that they show the essential make-up of the Sl systems of vowels at the time.

They show, for instance, that the quadrangle of the short vowels could move into the core triangle of the long vowels. This actually occurred in connection with the loss of *jers* and with shifts in quantity and in the accent system as a whole. The tables are useful in showing, even with all partial changes disregarded, the undeniable fact that some parts of the system were poorly or not at all integrated into the whole. These parts were *ě*, *y* as well as nasal vowels whose weakness originally lay in their extraphonemic, positional character (indicated in the table by parentheses). Later, with the loss of *jers*, when the combination V + N + C (or #) reappeared in the languages (e. g. OCS *tьnъka* 'thin', fem, > *tenka* as opposed to *tęžьka* 'heavy', fem > *tęžka*) the nasal vowels became full-fledged phonemes (in those dialects which had not lost them previously), but they still constituted a sub-system apart.

In those languages and dialects in which they had arisen (See 30,2), syllabic sonants *r̥* and *l̥* were another distinct group of vocalic phonemes.

It is precisely the problems of the phonemic status of *ě* and *y*, the nasal vowels and the syllabic sonants which became central in the phonetic development of the Sl languages, together with one more problem from the boundary of the vocalic and consonantal systems: reconciliation of the rich system of oppositions in vowels – characterized by features of quantity and, dialectally, pitch – with the system of consonants rapidly growing in some parts of the Sl area where the opposition in palatalization was coming to prominence.

The system of consonants also had its disparate, "trouble-making" members. As represented in 23,11, this system lacked a voiced counterpart for *č* (and also for *c* in those dialects, where *ʒ* changed into *z*) as well as for *x*, although in general this was a better balanced system than that of the vowels, which possibly accounts for the greater conservatism of the Sl languages in their subsequent treatment of consonants as compared with vowels.

The changes which constituted the subsequent development of the vowels and consonants in Sl were not limited to these problems alone. But these were of paramount importance and recurred in the histories of many, though not all Sl languages. Other problems arose in individual languages only and were not characteristic of broader areas. The problems of the first type can still be

called, in a sense, common Sl (or polylingual); but this name does not apply to those of the second type, even in the broadest and loosest sense.

Most "polylingual" problems were alluded to and partially traced, in general outline, into their historical treatment earlier in this book. Nonetheless it will be useful to take them up here, even if only to refer to the chapters and sections in which they were discussed.

2. Nasal vowels. As shown in 22, 2, only P and Pb have preserved nasal vowels. The scarce remnants in Sn and M dialects are precious as historical evidence but have no phonemic value. Even in P the phonemic status of the nasal vowels is dubious. In most environments they are in complementary distribution with groups V + N : nasal vowels occur before spirants, while groups V + N occur before stops: *wąs* 'mustache' and *wątpić* 'doubt' are phonetically [vǫs] but [vóntp'ić]. Phonemic opposition exists only in word-final position: *tą* 'this', instr sg fem [tǫ] vs. *ton* 'tone' [ton], which in the case of *ę* is actually valid only in the single pair *tę* 'this', acc sg fem [tę] vs. *ten* 'this', nom sg masc [ten] (cf. also *te* 'this', nom pl fem), because in all other words final *ę* is only graphic (*płaczę* 'cry', 1 sg = [pwáče].

In all other Sl languages nasal vowels were lost, as a rule at a quite early date: in R, Br, U, So, Sk, Cz, and SC in all probability in the tenth century, i. e. antedating the loss of *jers*; in Sn in the eleventh century; in various dialects of M and Bg at some time between the eleventh and the fourteenth centuries.

It is typical that in no known case was one nasal vowel eliminated while the other was retained. This shows that in every instance removal of the entire isolated group was at stake rather than partial and/or accidental changes in either of its members.

3. Elimination of *y*. As shown in 26, 2 and 5, *y* has survived as a phonetically distinct vowel only in R, Br, P, and So. Actually, however, it did not preserve its phonemic independence in these languages, but became an allophone of /i/, the latter being used after the palatalized consonants (and word initially), whereas *y* is used only after the non-palatalized consonants. Thus, as a phoneme *y* has been eliminated from all the Sl languages (For a qualification see section 10).

Phonetic coalescence of *y* and *i* into *i* characterizes SSl, Sk, and partially Cz. Judging from historical evidence, the change *y* > *i* in SSl began in the extreme northwest, in Sn. There *i* superseded *y* as early as the eleventh century, and, to judge by such substitutions as OCS *Rimъ* 'Rome' < ***Rȳmŭ**, in some westernmost dialects this occured even as early as the ninth century (See 26,6). From Sn the change spread to SC and M (twelfth century), then to Bg (twelfth to thirteenth centuries). In Bg, dialects with *y* still exist (e.g. Plovdiv, Kolarovgrad areas).

In Sk and Cz the loss of *y* occurred in the fourteenth and fifteenth centuries. In Cz *ý* changed into *ej* in the fourteenth century, a feature not accepted in the standard language but normal in colloquial Cz. In the fifteenth century *y̆* changed into *i*, and at about the same time this change also affected Sk. It

may be assumed, however, that prior to this phonetic coalescence *y* and *i* had coalesced phonemically. Palatalization of consonants was well developed in OCz and OSk, and palatalized consonants were not used before *y*. This means that in their treatment of *y*, Sk and Cz first followed the northern pattern (R, Br, P, So) but in the fourteenth to fifteenth centuries switched to the southern one. A vestige of the older stage when *y* and *i* were one phoneme but were not merged phonetically is preserved in the different treatment of *t*, *d*, *n* (also *l* in Sk) before the reflexes of *y* and *i*: these consonants are not palatalized before the reflexes of *y*, whereas they undergo palatalization before the reflexes of *i*.

U probably made this switch also, with the difference, however, that *y* and *i* coalesced into a sound which was neither *i*, nor old *y* but articulatorily and acoustically was closer to the latter (in transliteration denoted, rather misleadingly, as *y*). The coalescence of the two vowels occured in Kiev area in the twelfth to thirteenth centuries spreading west and covering Galicia by the fifteenth (some Carpathian dialects still distinguish between *y* and *i*).

Pb is quite unique in that it eliminated *y* by making it coalesce not with *i* but with another vowel of the upper row, *u* (See the table in section 1). The result of this coalescence is attested as *oi*: *moi̯t* (moyd) 'wash' < *myti* like *moi̯xó* (maichú) 'fly' < *muxa*. But after velars and dialectally also in other positions *y* is represented by *ai*, which is also the reflex of *i*: *st'ái̯bă* (stjeiba) 'hunk' < *skyba*.

Thus, if a few scattered archaic dialects and a few cases of fluctuation are disregarded, by the fifteenth century *y* was eliminated as a phoneme in Sl as a whole and as a phonetically separate vowel in SWCe Sl (See also 31,7).

4. Elimination of *ě*. The very variety of reflexes of *ě* as presented in 11, 3 (Cf. also 26,11) shows that the difficulties of incorporating *ě* in the normal system of vowels were greater than was the case with the nasal vowels or *y*. This was so not only because *ě* was outside of the core of the system but, after the changes of ₒ*a*, ₒ*ā* and ₑ*a* into *o*, *a* and *e*/*o*, respectively, it was the only remaining vowel of the "complex structure": ₑ*ā*. This opened up a possibility of easy shifts in the quality of the components of this vowel: as long as it preserved its "complex" (i. e. pseudo-diphthongal) character it could easily move more to the front or back and still preserve its identity in relation to all other members of the group.

This explains, why besides expected reflexes, i. e. those of the *a* and *e*-series to which series the original components of this vowel belonged, one also finds shifts into the higher and more front area of articulations: that of the *i*-row.

The general tendency was to eliminate *ě* as a phoneme. This tendency was implemented everywhere. Only in the Jekavian dialects of SC is *ě* still directly identifiable from its reflexes, *ije* under length and *je* if short. Yet not even in these dialects is *ě* a separate phoneme any longer. It has disintegrated into a group of phonemes, each of which taken separately represents other CS phonemes as well (*i* < *ī*, *e* < ₑ*a*). And even under these conditions the price paid for such preservation of the identity of *ě* was the introduction of a kind of "fugitive"

i into the system of the language. Cf. *dijète* 'child' : *djèteta*, gen sg: *djèca*, collective.

Ignoring scattered examples in various Sl languages (See 11,7 – 9), *a*-reflexes occur only in P (before hard dentals) and Bg (before hard consonants, under stress). They are also known before hard dentals from MESo (Jakubica 1548, Megiser 1603). In Pb, also before hard dentals, *ě* is represented by *o*, as *ā* of any origin usually is. In other positions however these languages allowed *ě* to coalesce not with *a* but with *e*, in P before the twelfth century and in Bg by the sixteenth century. WBg went further in this direction and generalized *e* in all positions, as also did Sn (tenth century), SC Ekavian (twelfth century at the latest), M (by the sixteenth century); and, in another area, Br and SR (before the twelfth century; in R of Moscow possibly introduced in the seventeenth century). Sk also had *e*, but under length diphthongized it in the fourteenth century to *ie*.

In other parts of Sl territory the "complex vowel" *ₑā* was shifted articulatorily up and forward which resulted in an *ie*-type vowel. This sound monophthongized quite early into *i* in NR (Old Novgorod region) and WČak SC, in both cases by the eleventh century. The same monophthongization took place later, in the late thirteenth century, in SU and, only under length, in Cz in the fourteenth century.

As a kind of *ie*-type diphthong *ě* is still retained in stressed syllables in NU and in root syllables (which also are or for a certain time were stressed) in So, where it is denoted *ě* [iₑ]. Outside of the stressed position, both NU and So have *e* from *ě*. Preservation of *ě* as a diphthong does not mean that its identity has been kept. The diphthongal reflex of *ě* occurs in those languages which have the same diphthong from other sources (*e* in newly closed syllables in NU: not only *diₑd* 'old man' < *dědъ*, but also *šiₑst'* 'six' < *šestь*; *ę* in LS: not only *śělo* 'body' < *tělo* but also *śěg* 'train' < *tęgъ*; *e*, *ь* in US: not only *ćělo* 'body' < *tělo* but also *ćěsla* 'carpenter' < *teslja*, *ćěmny* 'dark' < *tьmьnъ*-) and usually where there is another diphthong of *uo* type (NU *kuₒn'* 'horse', US *kóń*; but not in LS). The latter means that the diphthong has been incorporated as such in the core of the vowel system.

The monophthongal reflexes of *ě* listed above coalesced everywhere with reflexes of some other CS vowels to an even greater degree: with the reflex of *ₑa* in R (*pet'* 'sing', *peč'* 'bake', OR *pěti*, *pečь*) and Br; of *ₑa* in newly closed syllables in U (*did* 'old man' like *šist'* 'six'); of *ₑa* or *ₒā* in P and Pb; *of ₑa* and *ę* or *ₒā* in Bg; of *ₑa* and *ę* in Sk, Sn, SC (Ekavian) and M; of *ę*, *'a* and *i* in Cz; and of *i* in Čak.

Different as these coalescences are, all of them have one feature in common: *ě* was incorporated in the core of the system by having coalesced with some phoneme in the core.

5. Syllabic sonants. The problem of syllabic sonants was local, not CS. It was faced only by those languages in which the *Cu*SC, *Ci*SC groups became CS̥C after the *jers* had been eliminated: Sk (without ESk), Cz, Sn, SC, and M.

In 30,2 and 6 they were labeled the SWCe group. Bg was close to this group (See 30,7).

Among the languages of this group Sk, Sn and Bg had no phonemic complications at all: the syllabicity of *r̥*, *l̥* was purely contextual; i. e. *r* and *l* became syllabic in a consonantal environment. As shown in 30,6, Cz and M behaved differently: they had *r̥*, *l̥* in the reflexes of C*u*SC and C*i*SC groups, but non-syllabic *r*, *l* in the reflexes of CS*u*C and CS*i*C groups, even though the environments could have been identical: *vr̥ba* 'willow' vs. *krvi* 'blood', dat sg. This problem was solved by assigning syllabic character to all *r* and *l* between consonants: while the type *vr̥ba* was retained *krvi* changed into *kr̥vi*: a change which occurred in M as early as the twelfth century, in Cz in the fourteenth. Thereafter *r̥* and *l̥* became extra-phonemic vowels in the whole SWCe group, and if they have been eliminated in certain environments (e. g., in Cz after the hushing consonants: *černý* 'black' since approximately 1400, in Sn every *l̥* > *ol* in the fifteenth to sixteenth centuries), the reasons were phonetic rather than phonemic.

Only in SC did vocalization of preconsonantal and word-final *l* into *ou*/*u* introduce a new complication: in groups *r̥* + *l* (generally infrequent: SC *gȓ̥oce* 'neck', dim, < **gurlice*) *r̥* preserved its vocalic function before another vowel, i. e. in a non-consonantal environment. This made it a member of the system of vowels, apart from all other members. This situation endures in SC, but it does not go beyond the late fifteenth century and is a late, distorted repercussion of a possibility inherent in the system of vowels of disintegrated CS as molded into the languages of the SWCe group.

6. Prosodic features. As shown in sections 2–5, the instability of such vowels as the nasals, *y*, *ě*, and the syllabic sonants is rooted in their positions outside of the core of the vowel system. From this point of view, prosodic features of pitch, quantity and even stress may also be considered as somewhat external, for they form a second level or a kind of superstructure upon the system of vowels. The analogy is only partial of course but it may explain why in their treatment of prosodic features the Sl languages were in most cases as varied and as unstable as in their treatments of *ě*. But whatever the vicissitudes of Sl prosodic features, the trend was undeniably to abolish phonemic pitch, to a certain extent phonemic quantity, and to a still lesser degree even stress as distinctive features. As shown in 33,17, complete abolition of phonemically relevant prosodic features is achieved in P, So and M, while preservation of pitch, quantity and stress now characterizes SC alone; this system is dying out in Sn and even in SC it is subject to more and more positional limitations in the use of pitch, length, and stress.

Needless to say, division of the Sl languages, according to their use of prosodic features (suggested in 33,17) is of paramount importance to the development of their vocalic systems as a whole. Herein lies a great difference between prosodic features and other extra-core elements of the vocalic system. Elimination of a *ě*, to take an example, causes only partial shifts, if any,

in the vowel system. A change in prosodic features affects all vowels. Furthermore, such a change to a certain extent predetermines developmental tendencies in the very "habits" in using vowels. For example, vowels in certain positions or certain types of vowels can be reduced in a language of any type. However, a language which has oppositions in stress but no oppositions in pitch and quantity whatsoever or no oppositions in pitch and quantity outside of stressed syllables, is more prone to reductions of its unstressed vowels than a language with a different prosodic system. It is no accident that substantial reductions of vowels developed in R and Sn but not in Sk or Cz. This statement should not be oversimplified as elimination of pitch and quantity does not necessarily lead to reduction. Br and U show this clearly.

Indirectly, changes in prosodic systems also influence morphology, ultimately contributing either to its rebuilding or to simplifications in it. For example, if certain morphological oppositions are based on differences in quantity, elimination of the latter may bring about the loss of these oppositions in morphology. An example is the loss of distinction between the nominal and pronominal forms of the adj in U, primarily in the nom sg fem (and nom pl) as compared with their preservation in Cz: Cz *mláda* vs. *mladá* 'young', U *molodá* in both cases; as a result, the lack of this distinction has been expanded to the nom sg masc, where there was no merger of the two forms, so that the nominal forms of adj were virtually eliminated in U. All in all, even these random examples suffice to show that the split of Sl into five prosodic types was of crucial importance to further developments in the Sl languages. For additional details see section 10.

7. Palatalization. The spread (or lack of it) of palatalization for consonants was as vital and fraught with consequences as was the rebuilding of the prosodic system for vowels. Indirectly it affected vowels as well. As shown in 31,7, the rise of phonemic palatalization resulted in nearly doubling the number of consonantal phonemes. The choice was thus faced by each language involved of either thwarting palatalization or sacrificing part of the vowel system, usually by abolishing the phonemic relevance of some or all prosodic distinctions. It is well known that there is a certain relationship in Sl between the range of palatalization and the retention of phonemically valid prosodic features. In the long run, one of the two was eliminated or greatly curtailed, varying from one language to another. The varieties which arose in palatalization, especially the reverse trends typical of the NWCe area, were considered in 31, 5 and 7. A table clearly shows the relationship between the range of oppositions in palatalization and the preservation of prosodic features:

	Palatalization does occur in	Prosodic features
R	*b p v f m t d n l r s z*	Stress only
Br	*b p v m c ʒ n l s z*	,,
U	*t d c ʒ n l r s z*	,,
P	*b p v f m c ʒ n s z k g*	None

LS	*b p v m c ʒ n r s z k g*	None
US	*b p v m c ʒ n r*	,,
Pb	*b p v m t d c ʒ n l r s z k g x*	Stress only
Sk	*t d n l*	Quantity
Cz	*t d n*	,,
Sn	None (*n l*)	Stress, quantity, pitch
SC	*n l*	,,
M	*n l k g*	None
Bg	*b p v f m t d n l r s z k g*	Stress only

Except for M with its unique (within Sl) loss of both palatalization and prosodic features, the interrelation of the two phenomena is obvious.

Whatever the number of oppositions in palatalization in the Sl languages, there is no language which failed to dispalatalize any consonants at all. However, the number of dispalatalizations varies. Furthermore, there were various types of dispalatalizations in Sl, the principal types being:

a) Palatalization lost in consonants (otherwise unchanged) which had no opposition in palatalization. This procedure simplified the articulation but was phonemically irrelevant. This was the case of *c* and *ʒ* in all Sl languages except U (Cf. R *kupéc* 'merchant', P *kupiec*, Cz *kupec*, etc., but U *kupéc*'), and of hushing consonants in most Sl languages[1].

b) Palatalization lost in consonants which had opposition in palatalization, without any other changes in the consonants involved. The result of this was loss of the opposition. The case can be represented, e.g., by hardening of *r* in Br, Sk, SC and M (Br *búra* 'storm', *búra* 'brown', fem, from *burja*, *bura* resp.), *s* and *z* in So, Sk and Cz (LS *syrota* 'orphan', *syry* 'raw' from *sirota*, *syrъ* resp.), labials in certain positions in Sk and Cz (Sk *mäta* 'mint', Cz *máta*), and *l* in Cz.

c) Palatalization lost by a split: the originally palatalized consonant dispalatalized but the palatal or palatalized articulation was transferred to another consonant inserted after the first one. This characterizes, e.g., labials in U and So, in some positions in Cz and optionally in P; *r* and partially *l* and *n* in Sn, e.g., U *mjáso* 'meat' ([mjáso], not +[m'áso]), Cz *měsíc* 'month' [mn'ésīc], P *miara* 'measure' ([m'jára] or [mjára], in dialects also [mn'ára], [mx'ára]; Sn *morjệ* 'sea' ([morjệ], not +[mor'ệ].

d) Palatalized consonant changed in quality, not necessarily losing its palatalized character, e.g. Cz *r*' > *ř*, also MP. This eliminated phonemic opposition in palatalization while possibly preserving phonetic palatalization. A special case is that in which the changed consonant divorsed its non-palatalized counterpart and entered into new relationships with another non-palatalized consonant. This can be examplified by Br, P and So *t*', *d*' which changed into *c*'/*ć*, *ʒ*'/*ʒ́* (LS *ś*, *ź*). When, e.g., Br *t*' became *c*' its purely phonemic relation

[1] Hushing consonants are phonetically a little more palatalized in SC, M and Bg than in the other Sl languages. R and Cz *č* preserves (extra-phonemic) palatalization.

to *t* was lost, but because the language had by that time *c*, a new pair was formed: *c* vs. *c'*, e.g., *cěly* 'whole' vs. *cély* 'body', pl ([cély] vs. [c'ély]). In this case neither phonetic nor phonemic palatalization lost or gained numerically, but the make-up of pairs and of consonants susceptible to palatalization underwent a change and morphophonemic relationships as a rule became more complex (which in the long run can contribute to the further decline of palatalization).

e) Opposition in palatalization was also lost in some cases because of a qualitative change in the non-palatalized member of a pair while the palatalized member remained basically stable. In this manner opposition in palatalization was lost for *l'* when *l* changed into [w] in P and So (spelled *ł*). Of course, after ties with its dispalatalized counterpart are severed the palatalization of an originally palatalized consonant becomes a redundancy and can be easily removed, following mostly the type of change described under (a). This is what actually happened to P and So *l'*, which moved toward the non-palatalized, so called Central European *l*.

On the whole, the palatalized consonants have been the most fluid part of the consonantism of the Sl languages from their origin to the present day. Both phonemic factors (the complicated nature of the system and the high number of oppositions) and phonetic factors (the complex character of articulation in palatalized consonants) operated here. Contacts with contiguous or coterritorial non-Sl languages with no palatalization of consonants at all could in certain cases have contributed to the loss or limitation of palatalization.

8. Elimination of (or curtailments in) the hushing series of consonants. Among the hushing consonants *č* was incorporated in the system of the language to a lesser degree than any other. It did not participate in the interplay of oppositions either in voicing or in palatalization. Furthermore, the number of pairs with minimum distinction between *č* and *c* was zero or close to zero. Hence, in those Sl languages and dialects which did not introduce a voicing counterpart for *č*, i.e. *ǯ* (as Br, U, SC, M and Bg did, albeit in most cases on a limited scale) one may expect tendencies to eliminate *č*.

This actually occurred in NR (except the group of Vladimir – Volga dialects), in Pskov and Meščera (Rjazan' oblast) dialects of SR, in P dialects of Mazovia, Little Poland and N Silesia (i.e. in virtually all parts of Poland except Great Poland), in LS and Pb. In SSl the same change *č* > *c* is widespread in the Čak dialects of Dalmatia and Istria and in a few peripheral Štok dialects (Gallipoli Serbians, Šibenik, Karlobag, W Istria). Standard SC and the bulk of the Štock dialects developed only positional alteration of *č* into *c*: word initially before *r*, e.g. *cȓn* 'black', attested since the thirteenth century (cf. OCS *črьnъ*) and found also in M. Apart are R dialects of Kursk-Orel area and Sk of Gemer, where *č* > *š*.

In part of these languages and dialects the change spread to other hushing consonants as well: *š* > *s*, *ž* > *z*. These consonants were better integrated in the system of typical consonantal oppositions in that they partook of the

opposition in voicing, yet they were outside of the opposition in palatalization[2]. Characteristically enough, the area of elimination of *š* and *ž* never extends beyond the limits of *cokan'e* (as the change of *č* into *c* is called in R dialectology) and constitutes a part of the latter. Elimination of *š* and *ž* characterizes R dialects of the Pskov area, P dialects which lost *č*, Pb, and some Čak dialects of SC. The phenomenon of eliminating all CS hushing consonants is often called *mazurzenie*, a term used in P dialectology. In these terms one can state that the area of *mazurzenie* is smaller than that of *cokan'e* and lies within the latter.

Chronologically, *cokan'e* is attested earliest in NR. It is well reflected in the oldest texts written in Novgorod and Pskov by confusion of the letters *c* and *č* (e.g., *crevo* 'belly', *konьčь* 'end' in the Novgorod Minea of 1095, instead of *črevo*, *konьcь*). This shows that *cokan'e* in R arose in the eleventh century at the latest (in R dialects of the present day the picture is in many cases distorted and *č* has been reintroduced from the standard language or from other dialects). In P the dating of *mazurzenie* is debatable. The school of Nitsch placed it in the prehistoric period, while Taszycki placed it in the late fourteenth to sixteenth centuries. The time around the twelfth to thirteenth centuries seems most plausible, at least for Mazovia. In LS, *cokan'e* developed between the thirteenth and fifteenth centuries: there still was a *č* in the twelfth century, as So place-names borrowed by German show (*Tschernowitz* near Guben, now LS *Carnojce*). Pb supposedly lost its hushing consonants in the sixteenth to seventeenth centuries. In SC dialects this occurred in the seventeenth century. The differences in chronology show that these developments were basically independent of each other. They were indivudual solutions of a problem inherited from CS. It is interesting to note, however, that the Pskov area with its *mazurzenie* is linked to P territories by the same phenomenon across two Balt languages, Le and OPr (and probably also extinct Yatvingian), which also lost their hushing consonants (although Le preserves later *š* and *ž* from the clusters *sj*, *tj*, and *zj*, *dj*, respectively, and from assimilation to palatalized consonants).

It is possible that adjacent and coterritorial languages with no hushing consonants prompted the loss of hushing consonants in Sl. The influence of a Fe substratum is often assumed for NR and the dialects of Meščera, of OPr for Mazovia, of Low German dialects for LS and Pb (German /š/ hardly developed in this area before the sixteenth century), and of Venetian dialects of It for Čak. In each case however these influences could only serve to accelerate the change. The principal motivation was supplied by the system of Sl consonants.

In some instances Sl has what are or seem to be shifts from *s* and *z* to *š* and *ž* in languages and dialects which do not have *cokan'e* or *mazurzenie*.

In many cases Sl has *š*, *ž* in place of Germ and Rom *s*, *z* in loan words, e.g.: R *šëlk* 'silk', Br *šowk*, U *šovk*, from ON *silki* (< La *sēricus*);

[2] Dispalatalization of *s*' and *z*' in So, Sk and Cz may be considered as a partial adaptation, in this respect, of hissing spirants to hushing.

Br *žur* 'porridge', U *žur* ~ *džur*, P *żur* 'soup of fermented meal', LS, US *žur*, Cz *žour* ~ *žur*, Sn *žûr*, from OHG, MHG *sûr* 'sour mealpap'.

Cf. also OCS *žjupelъ* 'sulphur' from OHG *swëfal*, *papežь* 'Pope' from OBav *pâpes*; OR *šьgla* 'mast' from ON *sigla*; *okъšьvъ* 'axe' from Germ (ON) *øx*; *šneka*, type of boat, from ON *snekkja*; Cz *pižmo* 'musk' from OHG *bisamo* 'musk'; R *krúžka* 'mug' from MHG *krûse*; Cz *šafrán* 'saffron' from MHG *saffrân*; P *szla* 'towing rope' from MHG *sile* 'strap'; NR dial *šovnuš* 'sleeping place behind stove' from OSw *sömnhus* 'sleeping place'; P *szkarpetka* 'sock' from It *scarpetta* 'little shoe', *szkatula* 'casket' from MLa *scatula*, *szkoła* 'school' from La *schola*; Bg *košúlja* 'shirt' from VLa *casula*; SC (Dalmatia) *škȍlj* 'rocky islet' from It *scoglio*; SC *Pašman*, island-name (near Zadar), from Rom *Postumiana* (insula), *Vȋžula*, island-name (near Pula), from Rom *isola* 'island', etc.

This *š* reflects Germ and local Rom facts of the time: without phonemic opposition of *s* : *š*, *z* : *ž* the consonants *s* and *z* moved easily between *s*, *z* proper and *š*, *ž* pronunciation. The Slavs often interpreted these sounds as *š*, *ž* although occasionally and more rarely *s*, *z* also occur: OCS *svabъ* 'Swabian' (VM) from OHG *Swâb*, OR *svei* 'Swedes' from OSw *Svéar* ~ *Svíar*. That this was not a Sl confusion of *s*, *z* with *š*, *ž* is clear from the fact that Gr σ is not rendered as *š*. Nor do *š*, *ž* occur in Sl borrowings from Germ of an older period, cf. OCS *skotъ* 'cattle' from Go *skatts* 'money', OR *skrinja* 'box' from OHG *scrîni* 'shrine', OCS *xyzъ* 'house' from Balk Germ **hûs* (Go *hûs*), OCS *goneznǫti* 'be saved' from Go *ganisan*, OR *xъzъ* 'leather' from OGerm **husan* 'trousers' (OHG *hosa* 'hose'), etc. From approximately the sixteenth century, when German developed an opposition *s*: *š*, this rendition of German *s* and *z* by *š* and *ž* stopped in Sl.

Another case is affective *š* instead of *s* in Sl in word-initial position before *k* and *p*. It is particularly frequent in WSl, where German vacillation *sk-* ~ *šk-*, *sp-* ~ *šp-* could have contributed to the inception of these affective forms. From there they spread southward and eastward. Cf.:

Cz *škvár* 'dross, refuse', Sk *škvar*, LS *škvark*, U *škváryty* 'fry', R *škvárki* 'cracklings', but OR *skvara* 'fire', etc.;

Cz *škareda* 'monster', Sk *škaredý* 'nasty', US *škerjeda* 'filth', LS *škarjeda*, P *szkarada*, but SChSl *skarędъ* 'disgraceful', R *skáred* 'miser';

Cz *špica* 'spoke', P *szpica* ~ *śpica*, Sn *špica*, but R, Br *spíca*, U *spýcja*, Sk *spica*, US *stpica* ~ *stwica*, SC *spȉca*, from older (OR) *stьpica*.

Cf. also Cz *škrábati* 'scratch', *škubati* 'pluck', *škorně* 'boots', LS *škrjono* 'temple', US *škrička* 'sparkle', SC *škr̄gût* 'gnashing', P *szkło* 'glass', etc. All these words have parallel forms with *s-* in other Sl languages or even doublets in the same language. The affective nature of these words, when used with *š-*, is undoubtedly due to a partial accommodation to German pronunciation habits. Linguistic hybrids are often marked by a high degree of affectivity.

Neither direct borrowings nor hybrids of this type shed any light on the confusion of hushing and hissing consonants typical of certain Sl areas. Neither of the two is bound to the areas of this confusion.

9. *x* and *h* (γ) in Slavic. Another consonant which did not participate in the interplay of oppositions in voicing and palatalization was *x*. It is not surprising therefore that in some Sl areas tendencies arose to eliminate it completely by dropping it or replacing it by *f* (*v*). This is particularly characteristic of M but also occurs in a great many SC dialects (most of the Štok dialects except SW: Eastern Montenegro and Eastern Dalmatia including Dubrovnik). This tendency developed to a lesser degree in the dialects of Little Poland, where it is still well attested in the south and in isolated points farther

north. Here *x* is lost (Podhale) or replaced, usually in final position, by *k*, occasionally by *f*. Cf. P dial [wop], standard *chłop* 'farmer', [ćío], standard *cicho* 'slowly', *na nogak*, standard *na nogach* 'on feet'; SC dial *oće*, standard *hȍće* 'want', 3 sg; M *ubav* 'beautiful' (cf. Bg *xúbav*), *suv* 'dry' (SC *sȗh*), *odi* 'walk' (SC *hòditi*), etc.

Chronologically, the loss of *x* is attested since the fifteenth century in P, and since the sixteenth in SC; the M glossary of the sixteenth century does not reflect the loss of *x*. Of course, the data do not preclude the possibility that the loss of *x* had begun at an earlier date.

Another solution of the problem of *x* was to supply it with a voiced counterpart : γ. This occurred in a broad area stretching from the Oka to the Czech-German frontier. In SR, Br, U, Sk, US, and Cz, *g* changed into γ which in most parts of this territory developed further into *h* (phonemically this was irrelevant), so that γ is retained only in SR and some Br dialects. Soon after the alteration of *g* into γ (*h*) a new *g* was introduced everywhere except SR in loan words and in a few native words[3] so that the system of velars became

k	*g*
x	*h*.

Despite the contiguity of all the languages with *h* (γ) and although this change occurred at approximately the same time the common character of the change is questionable. Contacts of Br and U with Cz and Sk at that time were insignificant except for those by way of P and P did not introduce *h* (except in a few loan words from Cz, where it was soon replaced by *x*, as it is still pronounced in standard P in such words as *hardy* 'arrogant', *hrabia* 'count', etc.). SR of the time was completely isolated from both other centers of the alteration: Cz with US and Sk, U with Br. Therefore it is more in compliance with the facts to assume three independent centers of change. There was also a fourth center, of smaller scope; in WSn (west of the line Soče – Postojno) and littoral SC (Susak, Lošinj. part of Istria).

The earliest examples of *h* in the texts are quoted for Sk from 1138 (*Behis*, personal name, presumably from **Běgyšь*) and for Cz from 1169 (*Bohuslaus*, personal name) but they are uncertain. For Br and U Cyrillic г is ambivalent. Only when the digraph *kg* was introduced to denote /g/ is it plain that the letter г was used to denote /h/. This digraph is known only from 1386 (*Skyrkgajlo*, personal name).

Indirect evidence may be drawn from other facts and considerations. *Ahorn* 'maple', borrowed from OHG has a substitution of *v* for *h*: Br *jávar*, U *jávir*, US *jawor*, Sk, Cz *javor*. This word probably was borrowed after the split of ₒ*a* into *o* and *ā*, i.e. not earlier than the mid-ninth century. Thus, at that time only *g* and not *h* was used in Sl. Cf. also P *szuwar* 'bulrush', from OHG *sahar*.

[3] Br, U and Sk preserved *g* unchanged after *z*, cf. Br *mazgí* 'brains', *rózgi* 'birch rods' (spelled *mazhi, rozhi*), Sk *miazga* 'sap', *rázga* 'birch rod'; in U this *g* changed to *k*, e. g. *rízky* 'birch rods', *brýzkaty* 'splash', *mózku* 'brain', gen sg, *mizká* 'pumpkin pulp', etc.

Early Sl borrowings from Hung have x for Hung h: Hung *hotár* appears in Sk as *chotár* 'plot of land', etc. On the other hand, German borrowings of Sl words and place-names in Bohemia, e.g., *Prag* – Cz *Praha*, *Golem* – Cz *holemý* 'strong' point to the same: Sl had g and not yet h.

On the other hand, the development of Sl (OCS) *lьgъko* 'light' has been cited in order to prove the early rise of γ in Sl. After the loss of ъ long k is expected. One finds it in P *lekki* and shortened in SC *lȁk*, Bg *lek*. But Br has *lëhki*, U *lehkýj*, US *lochki*, Sk *l'ahký*, Cz *lehký*. These forms with h (x) could point to a change $g > \gamma$ ($> h$) prior to to the loss of *jers*. Yet these data are inconclusive. A dissimilation of $k + k$ could as well produce xk, as it did in R *lëgkij*, Sn *láhek*. OHung possibly had h = [x]. The precise dates of Sl borrowings in German are largely unknown. Therefore the only reliable statement would be that Sk and Cz had h in the thirteenth century at the latest, Br and U by the fourteenth. As for US, analysis of place-names as borrowed by German shows that in the twelfth century it had g (*Glesien*, 1349 *Glesin* < **Glazin*, *Gaussig* – *Huska*, *Gleina* – *Hlina*, *Görlitz*, 1349 *Gerolticz* – *Zhorjele*), which changed into h between the thirteenth and sixteenth centuries.

The change $g > h$ was motivated not only phonemically: the system of consonantal alternations worked in the same direction. In those languages in which ʒ (from g) simplified into z (which was the case in all languages in which h developed), the alternation series of g was

$$g : \check{z} : z,$$

i.e., the stop g alternated with spirants only, which was favorable to the "spirantization" of g itself into $\gamma > h$. In SR, Br and U the alternants of g were voiced counterparts of the alternants of x, which again contributed to an equating of g with x, with a difference preserved in voicing:

$$(g) : \check{z} : z$$

as

$$(x) : \check{s} : s.$$

Hence, after the change of g the complete identity of the two series, except in voicing:

$$\gamma : \check{z} : z$$

as

$$x : \check{s} : s.$$

In US, Sk and Cz the resemblance was incomplete because x alternated with $\check{s}$ alone (except for a few morphologically conditioned levelings). However, the series

$$\begin{matrix} g : \check{z} : z \\ x : \check{s} \end{matrix}$$

were identical except for voicing in their second members, whereas k alternated with affricates only:

$$k : \check{c} : c.$$

An observation was made (Trubetzkoy) that the area of *h* does not coincide with or overlap the area of *cokan'e*, except possibly in some marginal dialects of SC strongly exposed to outside influences[4]. One possible reason that the two developments are mutually exclusive could be that with *cokan'e* the alternation series of *k*, now reduced to two alternants, became isolated and the whole system of alternations of velars atomized, thus becoming incapable of exerting any appreciable influence on the individual members of the alternation series.

10. Remarks on typology of Slavic phonemic systems. Sl dialects present a great variety of phonemic systems. Here only the systems of the standard languages will be analyzed as they exist today or, in the case of Pb, in the most recent records in order to establish the principal types of these systems as continuations of and in opposition to the system inherited from CS[5].

The most typical of Sl is a five vowel system, with the main opposition in rounding vs. unrounding, except on the lowest level. In its simplest form it occurs in M:

i *u*
e *o*
a

It is not complicated here by prosodic oppositions. The same is basically found in LS, where, however, a diphthong i_e (spelled *ě*) must be added, and in US, where there are two diphthongs, i_e and u_o (in spelling *ě*, *ó*):

LS *i/y* *u* US *i/y* *u*
ě + *e* *o* *ě* + *e* *o* + *ó*
a *a*

The number of vowel phonemes thus increases to six and seven respectively. With its two nasal vowels P also has seven phonemes; and in both P and So, /i/ has an allophone *y*:

P *i/y* *u*
ę + *e* *o* + *ǫ*
a

Basically, these languages may be characterized as languages with no phonemically relevant prosodic features and five- to seven-vowel systems.

Another type is represented by those systems which also have five vowels but in which the situation is complicated by prosodic features, so that there are several subsystems of vowels in each language. The richest in this respect is SC, which employs three subsystems: under stress, in pretonic syllables, and

[4] γ is also used in some NR dialects in Karelia, but only after vowels, so that *g* is preserved as a phoneme.

[5] Consequently the systems are not presented here from the point of view of maximum economy on a synchronical level. Rather they are arranged for ease of comparison with one another and with preceding stages in their development.

in postaccentual syllables. The system is fullest under stress. In addition to the usual five-vowel nucleus, it contains an additional vowel *r̥*; and each of the six vowels may occur under four tones: ̏ ̀ ́ and ̂, which results in twenty four phonemes:

ȉ ȕ   ì ù   í ú   î û
ȑ̥ + ȅ ȍ   r̥̀ + è ò   ŕ̥ + é ó   r̥̂ + ê ô
ȁ   à   á   â

There is no opposition in pitch in postaccentual syllables so that istead of *ȉ* : *ì* : *í* : *î*, etc., one finds only an opposition of *ĭ* : *ī*, etc., the number of phonemes thus reducing to twelve. Finally, in all pretonic syllables SC has no opposition in quantity either. It is here that SC with its six phonemes is closest to the languages of the first type:

i u
r̥ + e o
a

Other languages within this type have simpler relations between their subsystems and the recognizable five-vowel nucleus. In Cz the two subsystems, under length and brevity, are basically identical, with the reservation that *ē* and *ō* are rarely used, and the diphthong *ou* is an extra-member of the subsystem of long vowels:

i u   ī ū
e o   (ē) (ō) + ou
a   ā

(Syllabicity of *r̥* and *l̥* in Cz is determined positionally).

In R and Br the full system appears under stress, where it is identical with the nuclei of P, LS, and US systems:

i/y u
e o
a

Outside of stress the system is reduced to

i/y u
a/ə

Thus only three vowel phonemes occur in unstressed syllables as opposed to five in stressed syllables.

U differs from this system in not identifying *y* with *i*. The former possesses a somewhat unstable position in the system of stressed vowels, vacillating between *i* and *e*:

i u
y
e o
a

In unstressed syllables *y* joins *e* so that the number of phonemes is reduced to five:

i *u*
e/y *o*
a

Thus U has a system which is a transition from basically a five-vowel system with phonetically relevant prosodic features to one with six vowels.

Typical representatives of this six-vowel type are Bg in stressed syllables, Sk and Sn under brevity. The Bg system under stress is

i *u*
e *o*
ə
a

In unstressed syllables it shrinks to

i *u*
ə

Sn has the same system of six-vowels in its short syllables as Bg under stress (See above). Under length, however, Sn loses *ə* but adds *ẹ* and *ọ* thus presenting a seven vowel system identical with the nucleus of the It system of vowels:

ī *ū*
ẹ̄ *ọ̄*
ē *ō*
ā

As recorded in the nineteenth century, Sn had an opposition of RP and FP within length, which doubled the number of vocalic long phonemes: *í* : *î*, *ú* : *û*, etc. (As for *r̥*, it is positional and realized as [ər]).

Sk has a six-vowel system in its short syllables. The system differs radically by making opposition in rounding rather redundant, while the main distinctive feature is front vs. back:

i *u*
e *o*
ä *a*

Under length, however, Sk returns to the classical five vowel system (disregarding the wealth of allophones):

ī *ū/iu*
(ē)/ie *(ō)/uo*[6]
ā/ia

Quite apart is Pb, which had a system of qualitatively different vowels unusually rich for Sl: twelve in the so-called strong position (under stress and

[6] Spelled *ô*.

pretonically), drastically reduced to four in other, so called weak positions. In the strong position:

i	*ü*	*u*					
e	*ö*	*o*	+	*ǫ*	+		*oi*[7]
a		*å*		*ą*		*ai*	

In weak position:

ə *ă* + *ǫ* *ą*

Setting Pb apart, one can speak of three main types of Sl phonemic vowel systems:

1) Five-vowel nucleus (which may be augmented by additional members to six or seven) and no phonemically relevant prosodic features;

2) Five-vowel nucleus (occasionally augmented by an additional member to six) and phonemically relevant prosodic features, which entails the establishment of two or three subsystems under specific prosodic conditions;

3) Six-vowel nucleus and prosodically conditioned break-up into two subsystems.

The first type is best represented by M; the second by R, on the one hand, and SC, on the other; the third by Bg. Provisionally, they can be labeled the M type, the R type and the Bg type. Those languages which in two of their subsystems belong to different types are a special case. The most typical example is Sk: the subsystem of its short vowels is of the Bg type, the subsystem of its long vowels of the R type. U belongs to the Bg type in its stressed syllable subsystem, but to the R type in its unstressed syllable system.

To summarize , the general distribution is:

M type: P, LS, US, M;

R type: a) Subtype with stress but no length: R, Br, U (outside of stress); b) Subtype with length: Sk (under length), Cz, Sn (under length), SC;

Bg type: U (under stress), Sk (under brevity), Sn (under brevity), Bg.

For classification from a purely prosodic point of view see 33,17.

A comparison with the last system of CS as presented in section 1, shows that all three types of modern Sl vowel systems differ strikingly from that system to which they are ultimately indebted for their existence. The CS heritage was rebuilt everywhere, differently but radically.

The inventory of consonantal phonemes varies in the Sl languages from twenty in Sn to fourty five in U. Statistical data in order of increasing magnitude are:

Sn	20	Sk	27
Cz, SC	25	US	29
M	25 or 26[8]	LS	32

[7] In some dialects (the so-called dialect of Henning) the diphthongs were not *ai*, *oi* but *ai*, *au*.

[8] *x* facultative.

[9] Palatalized labials facultative: cf. the pronunciation variants [mjára] ~ [m'jára], spelled *miara* 'measure'.

P	32 or 37[9]	Br	44
Pb	33	U	45
R, Bg	36		

Consonants common to all the Sl languages are:

labials: *p – b, f – v, m*; with the restriction that in So /v/ = [w]; in Br, U, Sk and Sn *v* has *w* as its allophone. P alone has /w/ as a special phoneme opposed to /v/, e. g. *wad* 'shortcoming', gen pl: *ład* 'order' (/vat/ vs. /wat/);

dentals: *t – d, s– z, c, r, n*. All Sl languages have *l*, but in P it moves freely between [l] and [l'];

palatal: *j*;

velars: *k – g. x* is also ubiquitous with the restriction that in M it is used in bookish words only.

Palatals *š, ž* and *č* are used everywhere in the standard languages, but not in Pb. The frequency of *č* in LS is extremely low.

Voiced affricates *ʒ* and *ǯ* are added to this core system in U, Sk, M and Bg; *ʒ* alone in P and Pb; and *ǯ* alone in Br, LS and SC.

Of the velars, *h* is added in Br, U, LS (with low frequency), US, Sk and Cz.

The largest additions to the core are palatalized consonants.

Palatalized labials are typical of R (full set: *p' – b', f' – v', m'*), Br, LS and Pb (all but *f'*).

Palatalized velars *k'* and *g'* characterize P, LS, M and Bg; Pb also had *x'*.

Most widespread are palatalized dentals. The full set of them in relation to the non-palatalized set, is represented in U; R has the full set except for *c*, Pb except for *r*, Bg except for *ʒ*. Br and P make an exception for the stops *t* and *d* and for *r* (instead, Br has *ʒ'* although it does not have *ʒ*). LS makes an exception for stops, *c*, and *l*.

In the languages not mentioned less than half of the dentals have palatal(ized) counterparts: US has only palatalized affricates (*ć, ʒ́*), *r'* and *n'*; Sk the stops (*t', d'*), *l'* and *n'*; SC the affricates (*ć, ʒ́*), *l', n'*; Cz reduces this number to three: *t', d', ń'*; M to two: *l', n'*; in Mo Sn *l'* and *n'* are at best optional.

Long consonants are not typical of most Sl languages. In P the phonemic opposition in length is basically limited to *n, n'* and *s* vs. *n̄, n̄'* and *s̄* respectively: *pana* 'mister', gen sg, vs. *panna* 'miss'; in R *c* is also involved (*telíca* 'heifer' vs. *telít'sja* [t'il'íc̄ə] 'calve'); in Br the opposition encompasses *n, c*, the complete set of palatalized dentals and all the hushing consonants, e. g. *zbóžža* 'grain' vs. *z bóža(j dapamóhaj)* 'with God's help'. In U all palatalized dentals except *r*, can be long, e. g., *dánnja* 'poison' vs. *Danja* 'Daniel'; hushing consonants, which otherwise are not palatalized, combine lengthening with palatalization, e. g., *nič* 'night' but *níččju*, instr sg; *j* can also be lengthened, e. g. *vijjá* 'oxcart shaft'.

Typologically the consonantal systems of the Sl languages can be classified according to the number of consonantal phonemes as those saturated with consonants (U, Br, R and Bg); those with a minimum number of consonants (Sn, SC, Cz and M); and those neutral in this respect (all others) which geo-

graphically provides a neat division into eastern, southwestern and northwestern groups. Naturally this classification is not of the Sl languages but of their consonantal systems only, and even here it is incomplete as long as the frequency and the functional load of consonants are not taken into account. Although there are no precise data concerning these two factors it is quite obvious that a great many of the consonantal phonemes which developed secondarily, especially such as *ʒ*, *ǯ*, *n̄* in R, *n̄*, *n̄'* and *s̄* in P, are used much less frequently than the bulk of the common Sl core.

From the point of view of opposition in voicing, a classification is possible into languages with predominantly systematic pairs vs. those which do not avoid disparate phonemes with no counterpart in voicing. Avoidance of such consonantal phonemes is typical of Sk, which has no voiced consonants without corresponding voiceless and vice versa; of M which has only one such a consonant (*x*) used only in bookish words; and of U which concentrated such disparate phonemes among its long consonants only: *s̄*, *c̄'*, *č̄'*). The other pole, of languages indifferent to these oddities in the system, is represented by Sn, US, R and Pb. In these languages more than 20% of all possible pairs are only potential and are actually represented by one member only: 33% in Sn, 27% in US, 21% in R and Pb. No compact geographical areas arise from this classification.

From the point of view of how oppositions in palatalization are developed the Sl languages are classified in 31,2.

Finally, opposition in length of consonants acquired a relatively higher degree of importance in U and Br only.

If compared with their point of departure in the system of consonants of disintegrating CS (See 23,11), the consonantal system of the Sl languages show that nowhere was the number of the inherited consonants reduced. Most developments consisted of filling in gaps in the original system; pushing the palatalization trend further; and, locally, introducing long consonants. Thus, despite a wide variety of partial and local solutions, the tendency of late CS toward a "consonantal" language has nowhere been subverted. It has either progressed, primarily in languages poor in vocalic phonemes, or the initial situation has remained basically unchanged or changed only insignificantly, in the languages with a large number of vowel phonemes. The latter is particularly evident in Sn but is also characteristic of Cz and SC.

These observations are not quite adequate because only the latest CS system and the latest available systems of the individual Sl languages are selected for comparison, whereas intermediate stages are ignored. Yet this simplification, which is necessary because the intermediary stages belong to the histories of the individual Sl languages, does not undermine the truth of the conclusions because the general trend of development did not basically change in the languages involved, except for reversal of the trend from original palatalization toward dispalatalization which is typical of the NWCe Sl languages and Bg. This reversal and its reasons were discussed in 31,5. Before this reversal began, the languages in question (U, Pb, Sk, Cz and Bg) belonged to the group with a

high number of consonantal phonemes and with a high number of oppositions in palatalization. In Pb and Bg, the reversal affected many positions but did not reduce substantially the number of palatalized consonants. In U, Sk and Cz the system of phonemes also underwent changes.

For a full presentation of consonantal systems in the Mo Sl languages see Appendix 2 (pp. 635–7).

11. Recurrent developments. Some CS developments were repeated in the later history of various Sl languages. They are of certain interest because they show which CS tendencies were alive and recurrent long after the dissolution of CS. Here only a sampling of the most characteristic among these regurgitation processes will be briefly sketched.

a) After the loss of *jers* new geminated consonants arose, mostly on the boundaries of a prefix and root or a root and suffix. This gemination subsequently was completely or largely eliminated in Cz and SC. SC reflects this even in its spelling, e. g. *òdati* 'betray', but Cz *oddati* 'marry' has the same pronunciation of *d*, i. e. without any lengthening. This applies to suffix boundaries as well: SC *plằmenī* 'fiery', Cz *plamenný*. M preserves lengthening in the first instance but not in the second: *oddade* 'give away' but *plamena* 'fiery', fem (masc *plamenen*). Standard Bg requires long consonants in both cases, but in many dialects lengthening is lacking so that *otdávam* is often pronounced [udávam]. Other standard languages do use long consonants, but very often their length is optional. R *otdát'*, though normally [ad̄át'] in fast or careless speech easily becomes [adát']. Those languages which have best preserved opposition in length in vowels seem to be the most reluctant to geminate consonants.

b) *j*-clusters, which also arose after the loss of *jers*, have been consistently preserved (aside from the prefix-root boundary) in R only: R *znán'e* 'knowledge' with [-n'j-] vs. P *znanie*, LS *znaśe*, US *znaće*, Cz *znání*, Sn *znânje*, SC *znánje*, M *znanje* (*j* in Sn, SC and M is only graphic), Bg *znáene*. Br and U eliminated *j*-clusters but introduced long consonants: U *znannjá*, Br *védanne*.

In regard to elimination of *j* the position of SC (Štok) is quite apart and closest to the treatment of *j*-clusters in CS: labials took *l'*, *d* and *t* became *đ* and *ć*, *l* and *n* palatalized into *l'* and *n'*, and only *s*, *z* and *r* remained unchanged and with *j* intact: *grôblje* 'cemetery', *zàbr̄đe* 'country behind mountains', *prûće* 'withe', *vesélje* 'merriment' but *prìmōrje* 'littoral', *klâsje* 'ears (of grain)' (in some dialects, however, *klaš'e*).

c) Other consonantal clusters than those with *j* were largely simplified in the Sl languages but nowhere consistent application of the CS rule that stops are dropped before spirants and stops is found. If this occurs, it is mostly in three-consonant clusters only, and even then the first consonant is usually not lost directly but merges with the next spirant into an affricate, a procedure alien to CS at a time when it did not possess any affricates. Cf. R *bogátstvo* 'wealth', U *bahátstvo*, P *bogactwo*, LS *bogatstwo*, Sk *bohatstvo*, Cz *bohatství*, Sn *bogâtstvọ*, SC *bògatstvo*, M *bogatstvo* everywhere with [-actv-], with only US admitting

bohastwo along with *bohatstwo*. Only in isolated words do some languages drop stops before spirants, as in R *xorëk* 'polecat' < *dъxorьkъ* (but U *dxir*, etc.), R *stakán* 'glass' < *dъstokanъ*, R *čan* 'vat' < *dъščanъ*, SC *ȍzgo* '(from) above' < **od-s-go(ry)*.

SC, especially in its dialects, is the most consistent of all the Sl languages in dropping stops before spirants and stops: *zóva* 'elder-tree' (< *bъz-*), *kȍ* 'who' (from *tko*, the latter by metathesis from *kto* < *kъto*); but SC is not quite consistent in this either: *tȉće* 'nestling' but *ptȉca* 'bird', dial *čèla* but standard *pčèla* 'bee', etc.

d) Prothetic *v-* was obligatory in CS before *u-* and probably before *ₒa-*. After *u*-diphthongs had monophthongized into *u* and a new *u* had developed in some Sl languages from *ǫ*, a new prothetic *v-* was introduced before this new *u-* as well. In the case of u_2 this characterizes Br, US, Pb and, optionally, U: Br *vúxa* 'ear', U *vúxo* ~ *úxo*, US *wucho*, Pb *voi̯xŭ* (woischi); in the case of *u* < *ǫ*, Br, US and, optionally, U: Br *vúhal'* 'coal, U *vuhíllja* ~ *uhíllja*, US *wuhel*. Prothetic *v-* also was introduced before *ǫ* in P, Pb, Sn (not in spelling) and Bg, although in these languages *ǫ* did not change into *u*: P *węgiel*, Pb *vǫ́d'ěl* (wungill), Sn *ǫ̂gel*, Bg *vǝ́glen*.

e) The processes of delabialization of rounded vowels were echoed in Cz shifts of back vowels into front vowels, particularly in its thirteenth to fourteenth century transition of *u* into *i* after palatalized consonants: *l'ud* > *lid* 'people', *kl'úč* > *klíč* 'key', *juh* > *jih* 'south', *dušu* > *duši* 'soul', acc sg, etc. The earlier *umlaut* of *'a* into *e* after a palatalized consonant (precluded, however, if a non-palatalized consonant followed), a phenomenon of the mid-twelfth century, was similar in character, but had no direct precedent in CS (and could not have had because CS at the time of delabializations had not *a* but *ₒā*), e. g., Cz *d'es'at'* > *d'es'et'* > *deset* 'ten' vs. *desátý* 'tenth', *sv'atiti* > *světiti* 'consecrate' vs. *svatý* 'saint', *čáša* > *čéše* > *číše* 'cup', *vůl'a* > *vůle* 'will', etc. Both alterations have their parallels in Bg dialects: *a* > *e* in the Central Balkan region (*čáša* 'bowl' but *čéši*, pl), *u* > *i* in the area of Panagjurište (*klič* < *kl'uč* 'key).

f) The first and second palatalizations of velars are echoed in the Ka and NP (Bory Tucholskie and Western Krajna) change of *k'*, *g'* (which developed before the reflexes of *y* and *ǝ* and contracted groups of the *oje*-type) into *ć*, *ʒ́*, e. g., *ʒ́ipći* 'lithe', *ćeř* 'bush', *naʒ́e* 'naked', nom sg neut – cf. P *gibki*, *kierz*, *nagie*. In Ka this change occurred in the late nineteenth and early twentieth centuries.

g) Palatalization of velars was introduced in many WBg dialects and many scattered local SE and some NE dialects of R if the velars were preceded by palatalized consonants or front vowels. This recalls the third palatalization of velars, with the difference, however, that velars in Bg and R are strongly palatalized but do not change into affricates. Cf. Bg dial *újk'o* 'uncle', *svírik'a* 'pipe' (Orxane, NE of Sofia), *svínk'a* 'mumps' (Stanke-Dimitrov area); R dial *P'ét'k'a* 'Peter', *dóč'k'a* 'daughter', *Ol'g'a*, personal name, *ol'x'á* 'alder-tree', etc.

h) Ka has repeated the early Sl rise of *ə* from *ŭ* and *ĭ* (Ka *ĭ* had developed from CS *i*, *y*, *ę*), e. g. *sëti* 'fat', *lëzgac* 'crack', *lëbi* 'lithe', *kuřëc* 'smoke' – cf. P *syty*, *łuskać*, *luby*, *kurzyć*. Many Sn dialects, particularly of Upper and Lower Carinthia effected the same alteration, with, however, the limitation that this did not affect stressed syllables. They go farther than Ka: the reduced vowel is often dropped, like *jers* in weak position. Cf. Sn dial (Lower Carinthia): *mə̀š* 'mouse', *híšə* > *híš* 'house', dat sg, *səxộ* > *sxộ* 'dry', etc. The Ka change probably occurred in the seventeenth century, the Sn is attested as early as the sixteenth.

i) The development of NRP is to a certain extent paralleled in Sn and SC. While shifting accent from the final syllable onto the preceding one, Sn developed long rising pitch on the latter, e. g., *žéna* 'woman' < **ženà*. SC (Štok) retraction of every stress onto the preceding syllable always resulted in the RP which was or was not combined with length, depending on the original quantity of the newly stressed vowel: *trúba* 'trumpet', but *žèna* 'woman. Chronologically these changes supposedly belong to the twelfth century (Sn) and the fifteenth (SC).

This brief survey shows that regurgitations of CS developments occurred at various times in various parts of the Sl area, with greater concentration in SC and Ka. They were primarily conditioned by the situations existing at a particular time in the languages in which they took place. Nevertheless they bear witness that a certain partial continuity was preserved between the developments of more modern Sl languages and those of late CS and that some deviations from the standards of CS were remedied by the same treatments which were typical of CS. Although the Sl languages of the historical period were languages with widely admitted closed syllables and no intrasyllabic harmony, most of the recurrent developments led to the simplification of at least some consonantal clusters (changes a, b, c) and the introduction of at least some elements of intrasyllabic harmony (changes d, e, f, g). It is also highly characteristic that no developments of early CS are repeated (e. g., no new *x* from *s*, no systematic split of syllabic sonants, no coalescence of *o* and *a*, etc.). All recapitulations noted relate to late CS developments, hardly older than the fifth century. This makes it possible to see in them despite their scattered nature in time and space repercussions of tendencies initiated in CS, in a sense common Sl developments in the post-CS period. On the other hand, the scattered nature these recapitulations have is due to the advanced differentiation of the Sl languages and their departure from their original status. This differentiation prevented any really extensive common developments in the strict sense of the word, even if carried out independently.

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35. SUMMARY: A RETROSPECTIVE VIEW AT COMMON SLAVIC DEVELOPMENTS

1. Periodization of history of CS. 2. Dismemberment of CS in process. 3. Slavic and Baltic. 4. Slavic and Iranian. 5. Slavic and Germanic. 6. A note on Slavic in relation to contiguous extinct IE languages. 7. Slavic and Romance. 8. Slavic and Turkic (Altaic). 9. A note on Slavo-Fennic linguistic relationships. 10. Motive forces in Common Slavic and early Slavic sound changes.

1. Periodization of history of CS. The phonetic development of CS is characterized by a sequence of periods marked by numerous changes and periods marked by relative stability. At the beginning of its history CS underwent a series of radical alterations which may be considered as due to the loss of laryngeals. The rise of phonemic pitch was the most significant of these changes for by doubling the number of long vowel phonemes it permitted drastic cuts in consonants. Aspirated stops were lost, then labiovelars and, somewhat later, palatovelars. Syllabic sonants were also abolished. These changes ushered in CS as such. Their precise chronology is hardly retrievable, but they may be placed approximately in the period from 2000 to 1500 B. C., with the probable exception of the loss of palatovelars. The elimination of geminated consonants and the earliest changes in consonantal clusters (*tt*, *pt* > *st*) probably fall into the same period.

After this first period of numerous and radical changes a period of almost a millenium followed for which we are unable to reconstruct any appreciable changes, a period of great stability. In about the sixth and fifth centuries B. C. a new group of sound changes can be adduced: the rise of *x*, the merger of *o* and *a* into $_{o}a$ and, in conjunction with the latter, the emergence of a tendency to a specific structure of vowels: an on-glide preceding the core of the vowel, not necessarily identical phonetically with this core. As a result, *e* changed into $_{e}a$, *u* into $_{u}u$, *i* into $_{i}i$, paving the way for the forthcoming rise of the earliest prothetic consonants in word-initial position. In its outcome the coalescence of *o* and *a* can be understood as a manifestation of the tendency partially to reduce the overly rich vowel system. As for the rise of *x*, it was supported by affective factors (See 7, 7) and had its phonemic justification within the system of the consonants (leveling between the subsystems of velars and dentals, see 7, 9) but it rather contradicted the trend of that time toward a reduction in the number of consonantal phonemes.

After this second period of disturbances came a new period of relative stability, which lasted again almost a millenium. Only a few minor changes occurred during this period: loss of final N after short vowels, loss of final *t*

and *d*, simplification of certain consonantal clusters, and the rise of prothetic *v*- before initial *ŭ*- and of prothetic *j*- before *ĭ*-.

After this second conservative period a time of accelerated, one might say stormy, developments set in. Beginning in the fifth and sixth centuries A. D., this period of drastic mutations led from such final CS developments as simplification of most *j*-clusters, first palatalization of velars and first delabialization of rounded vowels, and monophthongization of *u*, *i* and N-diphthongs to more and more differentiated local developments, which by the end of this period resulted in the complete disintegration of CS. At the same time, the very character of the language was at stake. Set up at the beginning of CS as a predominantly "vocalic" language, it was now moving simultaneously in opposite directions, with trends working in defiance of each other. On the one hand, a series of impulses operated toward greater consistency in the "vocalic" type: further simplifications of consonantal clusters, monophthongization of the remaining diphthongs. In the same spirit but going much further than the previous development, a tendency to intrasyllabic harmony was introduced, with certain transgressions in the direction of word harmony. On the other hand, however, new consonantal phonemes were ushered in, giving rise to alternations of consonants, a phenomenon alien to the CS of an earlier date. Alternations of vowels as a system were destroyed by the monophthongization of diphthongs and certain other sound changes. Qualitative changes of vowels undermined the existence of phonemic pitch. The very pattern of the language was endangered, and this posed a problem for every individual Sl language which emerged from these turbulent upheavals: to restore the lost balance, each in its own way.

Thus the history of CS can be most naturally divided into five periods which, as it happened, are almost symmetrical in their duration:

1) First period of (major) mutations and rise of CS, ca. 2000–1500 B. C.;
2) First period of stability, ca. 1500–600 B. C.;
3) Second period of (minor) mutations, ca. sixth – fifth centuries B. C.;
4) Second period of stability, ca. fifth century B. C. – fifth century A. D.;
5) Third period of (major) mutations and, at the same time, disintegration of CS, ca. fifth – tenth centuries A. D. This is a period which may be called Sl but not CS.

Strikingly enough, the fifth period coincides with stormy historical developments. It was then that the Slavs, partly independently and partly through involvement in the movements of the Huns and Avars, expanded from their original habitat and settled in areas incomparably larger than their primordial homeland, – from Lake Ladoga to the Peloponnesus and from the Elbe to the Volga. This was a time of constant disintegration and reintegration of the Sl tribes, the rise and fall of military alliances, and the first state organizations.

It would be tempting to associate the two older periods of mutations with historical disturbances as well and theoretically such a possibility should not be ruled out. Factually, however, there is no historical evidence that the isolation of CS from IE was related to any major migrations of the Slavs or to any other

events able to upset their way of life, and it would be risky to posit historical disturbances on the basis of language mutations. These considerations apply to the middle period of CS history as well. Historically, it was the time of Sl-Irn contacts, but little is known about the nature of these contacts or the extent to which, if at all, they changed the habitat and course of life of the Slavs. A student of the history of CS must limit himself to the statement that the language changes of the first and third periods make it possible to assume that at about those times certain geographical and/or historical upheavals took place in the life of the Slavs. It is the task of historians and archeologists to establish whether or not such upheavals actually took place.

2. Dismemberment of CS in process. What we know of the earliest dialects of CS is summarized in 21,9 and shown on diagram No. 1 (p. 308). It is also emphasized there that the oldest known phonetically divergent developments go back no further in time than the epoch of the second palatalization of velars, i.e. to the sixth or seventh century A. D., except possibly for some peripheral changes which characterized the M and Bg area alone (specific early treatments of *tj*, *dj*-clusters, an earlier first delabialization of *u*) and which can be assigned to the fifth or sixth century A. D. The changes directly or indirectly connected with the second palatalization of velars in most cases separated WSl from the other Sl dialects. In the case of the clusters *kv-* and *gv-*, however, SBr and NU[1] shared development or rather lack of it with WSl (See 21,6): and in treatment of the clusters *sk*, *zg* they had a development of their own (See 21,4).

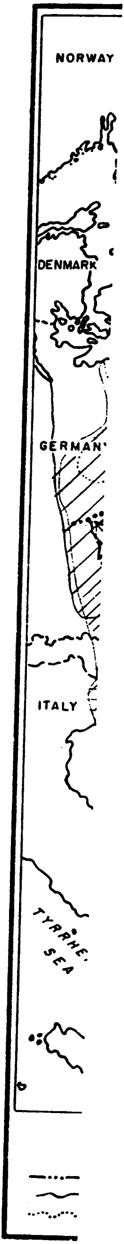
Once initiated by the second palatalization of velars, dialectally divergent developments in Sl proceeded with a constant gain in speed, depth, and variety. There are hardly any developments in or after the seventh century which were common to the entire Sl area. The facts have been elucidated in the respective chapters, so that they may be recapitulated very briefly by mere reference to the corresponding sections:

a) The rise of nasal vowels produced different results in the ultimate treatment of final *e*N (< *-jons*, *-jans*), It was treated as *-ě* in the endings of the nominal declension in NSl but as a regular *-ę* in SSl. This phenomenon probably goes back to an earlier loss of final N in the NSl dialects (See 22,13).

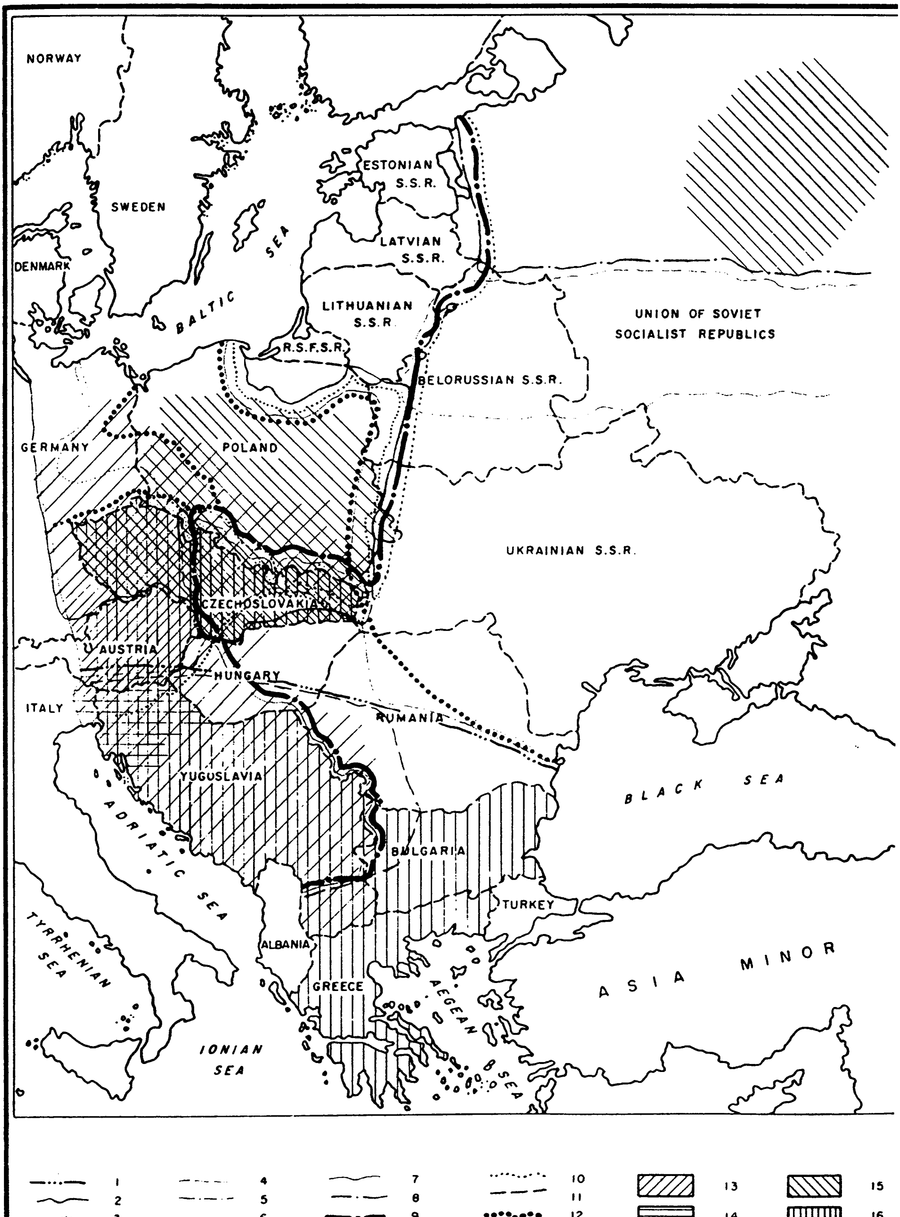
b) The third palatalization of velars differed dialectally not only in reflexes of *x*, along the same lines as the second palatalization, i. e., WSl vs. SSl and ESl, but also in the density of changes. It was primarily a phenomenon of SC, M, Bg, Sn and Cz (See 23,6).

c) Simplification of the clusters *tl*, *dl* cut the Sl languages in two, the isogloss running through Sn and CeSk, thus opposing the Balkan -Dnieper area to the Carpatho-Alpine and isolating a smaller Baltic area (See 25,1).

[1] Strictly speaking, one should say, Proto-SBr and Proto-NU. In this section the names of the modern Sl languages and dialects are used for the sake of simplification, without implying that these languages and dialects really existed as such in the fifth to tenth centuries.



NORWAY
DENMARK
GERMANY
ITALY
TYRRHE
SEA



NORWAY
SWEDEN
DENMARK
BALTIC SEA
ESTONIAN S.S.R.
LATVIAN S.S.R.
LITHUANIAN S.S.R.
R.S.F.S.R.
UNION OF SOVIET SOCIALIST REPUBLICS
BELORUSSIAN S.S.R.
GERMANY
POLAND
UKRAINIAN S.S.R.
CZECHOSLOVAKIA
AUSTRIA
HUNGARY
ITALY
RUMANIA
YUGOSLAVIA
BLACK SEA
ADRIATIC SEA
BULGARIA
TURKEY
TYRRHENIAN SEA
ALBANIA
ASIA MINOR
GREECE
AEGEAN SEA
IONIAN SEA
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Dialectal divisions in disintegrating Common Slavic

The isoglosses so far established are plotted schematically on the map. No attempt was made to reconstruct the areas of sound changes at the time they first arose. The isoglosses are presented as they appear in historical time. Since the original areas of each phenomenon are not reconstructible, there was no emphasis on exactness in the presentation of the isoglosses in relation to minor dialects. The modern languages or major dialects are taken as basic units without consideration of possible deviations in details. Plotting of isoglosses on the territories now non-Sl is arbitrary. The purpose of the map is not so much to give exact boundaries of sound changes as rather, by showing their projection onto the present-day language units, to suggest their approximate centers of radiation or (if it is an archaic feature) of preservation in disintegrating CS.

Legend

1. Southern boundary of -*ę* replaced by -*ě* in endings of the "soft" declensional types.
2. Area of $x > \check{s}$ in the second and third palatalizations.
3. Southeastern boundary of preserved *tl*, *dl*-clusters.
4. Area of *akan'e*.
5. Southern boundary of $_{o}a$RC > R*o*C under FP.
6. Southern boundary of $_{e}a > o$ (in various positions).
7. Eastern boundary of coalescence of *ŭ* and *ĭ*.
8. Southwestern boundary of the change of *ŭ* and *ĭ* before *j* into *jers*.
9. Eastern boundary of compensatory lengthening of vowels, caused by reduction or loss of *jers* in the following syllable.
10. Area of partial preservation of the pre-*jer* vowels in C*ĭ*SC, C*ŭ*SC groups.
11. Area of no automatic palatalization of consonants before front vowels.
12. Western boundary of shortening of long stressed vowels.
13. Area of vowel-group contractions (of various density).
14. Main area of NFP.
15. Areas of NRP on short vowels.
16. Area of C$_{o}a$RC > CR*a*C.

d) There is a possibility that *ū* yielded *y* in some of the Sl dialects and the diphthong *ui* in others but since the existence of *ui* from *ū* cannot be proved and since for this reason its boundaries cannot be established (See 26, 3), it is reasonable to exclude this possibility from consideration as an early Sl dialectal division.

e) The split of *˳a* into *ŏ* and *ā* was common Sl under stress; but is was hampered in unstressed syllables in NBr and SR (See 26, 10). In this respect these dialects were thus opposed to all other Sl dialects.

f) In the treatment of *˳arC*, *˳alC* groups the north is opposed to the south, the latter comprising CeSk, Sn, SC, M and Bg (See 27, 2).

g) In treatment of groups of the type C˳*ar*C, etc., four territorial complexes were established: SCe (comprising Sk, Cz, Sn, SC, M and Bg); P-So; WBaltic (Pb and Ka); and Eastern (See 27, 2).

h) The split of *˳a* into *e* and *o* characterized the northeast, with deviating treatments in WBaltic, P-So and Eastern Sl; the entire south, including Sk, Cz, Sn, SC, M and Bg, did not have the split at all (See 28, 1).

i) In developments of *ŭ* and *ĭ*, the main dividing line ran between WCe (comprising P, Cz, Sn, SC and partially Bg), where they coalesced into *ə*, and other areas, where *ŭ* changed into [ɔ]; in these other areas one must further distinguish between Pb, in which *ĭ* basically coalesced with this latter reflex of *ŭ*; and ESl, on the one hand, and M (with the Rhodopian dialects of Bg) on the other, where the two were treated differently (See 29, 1).

j) In the treatment of *ŭ* and *ĭ* before *j* the northeasternmost dialects from which NR evolved were opposed to all other Sl dialects (See 29, 6).

k) In compensatory lengthenings caused by weakening and subsequent loss of "*jers*" the East, comprising R, Br, U, Sk, Bg and M, is opposed to the West. Only in the latter were there compensatory lengthenings of this type. Within the Western group subdivisions must be made into a SW group (Sn and SC), with lengthenings of *o* and *e* before any consonant[2], P, with lengthening of all vowels, but only before voiced consonants, and a Central group (Cz and possibly US), with lengthenings of *o*, *e* and possibly other vowels before any consonant (See 29, 8).

l) In the treatment of C*u*SC, C*i*SC groups it is necessary to distinguish the East (R, Br, U) and Northwest (Pb and US), which applied the principle of development of strong *jers* to *ŭ* and *ĭ* in these groups; the North-Central area (P, LS and ESk), in which *ŭ* and *ĭ* were partly petrified in these groups; and the South-Central area (Sk except ESk, Cz, Sn, SC, M and, basically, Bg) which developed syllabic sonants (See 30, 2 and 7).

m) In palatalization of consonants before front vowels, two main areas are to be singled out in the original distribution of the facts: the non-palatalizing SW area (Sn, SC and probably M) vs. the rest of Sl territory. The latter subsequently dwindled due to dialectal reversal of palatalization (U, Pb, Sk, Cz,

[2] The short vowel found in cases of the type SC *kȍnj* 'horse' probably is the result of SC shortening of all vowels under RP, which originally involved length.

Bg). For the time under consideration, however (fifth to tenth centuries), these developments may be ignored, as is the treatment of strong *jers* and of *jers* in word initial syllables after *j*- (See 31, 2).

n) In shortening of long vowels two main areas again stand out: Eastern, with shortening of unstressed vowels (R, Br, U [or only NU]); and Adro-Baltic (P, Sk, Cz, Sn, SC, Bg), where lengths were best preserved in pretonic syllables, with certain important differences in this second area, where, e.g., Cz was opposed to P, Sk and Sn in preserving length under stress in disyllabic words if it was combined with RP, while in the treatment of pretonic length Cz went hand in hand with P and Sk but not with Sn and SC (See 32, 7 and 4).

o) Contractions of vowels originally separated by *j* (and, by implication, the instability of *j*) characterized basically the Adro-Baltic group of Sl dialects: primarily Cz, and to a lesser degree So, SP, Sk, Sn and SC, especially Čak. These contractions spared ESl and to a great extent M and Bg (See 32, 8).

p) Metatony on brevities developed in R dialects of the Leka type, in Sk, and to a more limited extent in P and Cz. NFP arose in Sn, whereas NRP as a new pitch combined with stress shift is demonstrable for Sn and SC only. To the north of this area, in P, Sk and Cz, NRP meant lengthening combined with stress shift; in ESl stress shift only (See 33, 15).

It is obvious from this recapitulation of what was stated in earlier chapters that the isoglosses of the fifth to tenth centuries display hardly any regularity and form almost no stable groups of languages or dialects. They overlap and cross one another in seeming disarray, as if reflecting the turmoil of the Sl history of the time (See 25, 7; 30, 11).

Some isoglosses cut across what from the modern point of view are languages uniting parts of them with other languages, e.g., the isoglosses of simplified vs. unsimplified clusters *tl*, *dl* (running through Sk and Sn); of *akan'e* (through R and Br); of *ôrC* and *ôlC* groups (through Sk); of preservation vs. non-preservation of *ŭ* and *ĭ* before *j* (through R); of palatalization vs. non-palatalization of consonants before front vowels (through Bg); of vowel contractions (through P); of metatony on brevities (through R); and perhaps others. (See the map at p. 608).

Further scrutiny of isoglosses shows that two types prevail for the period under discussion: north-south and east-west. The NS isoglosses ran mostly between P on the one side and Br and U on the other. The EW isoglosses formed two main bundles: one basically north of Cz and Sk, the other south of them. The density of isoglosses is particularly striking around Sk, Cz and Sn. Conversely, the number of isoglosses is much smaller in peripheral areas. Three such peripheral areas emerge upon scrutiny: the small Pb area (whose position apart may, however, result partly from a lack of evidence), the larger M and Bg area, and the much larger of R, Br and U one. The uniformity of the latter is, however, broken by the isoglosses of *akan'e*, of NRP on brevities and different treatments of *ŭ* and *ĭ* before *j*.

The subsequent formation of the individual Sl languages is anticipated by

intersections and denser bundles of isoglosses. P is fairly well delimited from the east and to a certain extent from the south, Sk from the west, Cz from all sides, SC from the south and the north (except that it is separated from Sn only by the presence or absence of NFP, a later phenomenon). The western boundaries of P are still fairly vague, and so are boundaries among the ESl languages and between Bg and M. Linguistically, SR and NU could have become Br, ESk could have gone with P, Kajk dialects of SC with Sn, and WBg with SC, or the Timok dialects of SC with Bg. But it is not only the isoglosses of separate developments which shape an area linguistically but the entire pattern of the spoken idiom as it is fixed for a particular time. Cf. for this certain considerations on the typology of Sl phonemic systems, e.g., from the viewpoint of the number of consonants, in 34, 10. It goes without saying that differences in vocabulary, morphology and syntax are also of great importance. The grouping of the Sl languages and dialects which is suggested here is of necessity based upon criteria of phonetic and phonemic development only and is thus incomplete.

However, even those facts which pertain only to the phonetic development of Sl until approximately the tenth century suffice for several statements. First of all, they disprove the contention as to "profound and old dialectal variations in CS" (K. Moszyński). The variations which are of relatively old date are not profound. Profound differences do not begin before the eighth century.

Furthermore, the facts of the phonological development of Sl before approximately the tenth century do not justify the traditional tripartition of the Sl languages into E, W, and S groups. The most vulnerable point in this scheme are Sk and Cz, which were continuously torn between S and N, going once with the south, another time with the north and, by the same token, forming a connecting link between the two. In certain cases Sk even went with the east. If any classification of Sl of the time is needed, it is better to speak of an unstable and dynamic Adro-Baltic area of new Sl settlements as opposed to the Eastern area, where the Slavs remained in their old habitat or spread very gradually to areas thinly populated by peoples with a somewhat lower level of civilization, so that possibly slow progress here is reflected in lesser variety in isoglosses. There are also two small peripheral areas with a tendency to self-isolation from the other Slavs, areas which had certain developments of their own and to some extent participated in changes in the languages of the neighboring Slavs but occasionally with delays and in a weakened manner: West Baltic and Macedo-Bg.

However, no static pigeonholing would do for that time because of the immensely dynamic character of developments. The disintegration of CS did not resemble the growth of a tree which first put forth three large branches (ESl, WSl and SSl), from which smaller twigs (the individual Sl languages as we know them) later sprouted. Nor can this disintegration be grasped in the traditional metaphor of waves spreading one after another. If a metaphor is appropriate, the most suitable would be the image of clouds in the sky on a

stormy day, with their constant changes in shape, their building up, overlapping, merging, separating and their ability to vanish in an instant.

It would be futile to attempt to buttress every isogloss with a particular event in the political history of the Slavs, such as a migration or a political union. Such naive attempts have often been undertaken, e.g. associating the common development of CORC groups in Sk and Cz on the one hand, and in SSl on the other with the impact of the state founded by Samo, or even arriving at such theories as a hypothetical migration of the Bulgarians, already established as an entity from the vicinity of the Balt tribes and the Poles (to explain common P-Bg features in the treatment of *ě*, etc.). Actually, in their converging spontaneity many common developments are easily understandable from the general dynamic character of the Sl history of the time and in many cases could have been and were independent, albeit identical or almost identical local responses to the challenges of a common language heritage.

As it is not expedient to speak of any stable groups among the Sl languages of the time, it makes no more sense to speak historically of any specific Sl languages as we know them from later periods. We are dealing with a period when CS no longer existed, but the Mo Sl languages were not yet formed. Of course, the history of any particular Sl language is rooted in this period, and any treatment of this history must begin with the first developments which marked the earliest manifestations of relatively independent changes in the intricate and live tangle of the Sl dialects of the time. The earliest developments of, say, Br or Cz or M fall into this period. This does not, however, imply that any of these languages existed as such at that time. The history of a man begins with his embryo, but the embryo is not the man.

The Sl languages in the modern sense assumed shape after the period under consideration. When the migrations had stopped, Sl settlements had become stable and certain centers of political and cultural life had been established, it was around these centers that by social attraction the Sl nations and their languages became a reality. In this development, one may assume, many original local peculiarities were irrevocably suppressed, phonetic peculiarities among them, and only rare remnants of them are discovered occasionally, by modern dialectologists. It was unearthed, for example, that the prefix *vy-* borrowed from Germ and considered typical of NSl only, survives in a few words of Sn and SC dialects (*vigled* 'appearance' in Štok, certain words on the islands of Krk and Cres, Sn village-name *Vipolže*, in the Soča Valley); or that the ending *-ъmь* > *-am* of the instr sg of *u*-stems exists in the SC dialect of the Krašovani isolated in Romania, although it had been considered completely suppressed in SSl by *-omь*. Yet these discoveries belong to morphology. It is more difficult to unearth superseded phonetic developments. For example, there are two forms of the numeral meaning 'four' in Sl: R *četýre*, Br *čatýry*, U *čotýry*, Pb *cítər* (zitter), SC *čètiri*, M *četiri*, Bg *čétiri* vs. P *cztery*, LS *styrjo*, US *štyrjo*, Sk *štyri*, Cz *čtyři*, Sn *štíri*, but it is hard to decide whether the second set of forms represents an allegro-tempo reduction of the vowel in the first syllable or a regular change of *e* into *ь* (See 23, 12).

It may be inferred from these examples and considerations that by the tenth century there certainly were more isoglosses which split up what are now separate Sl languages and fewer isoglosses coinciding with the boundaries of the individual Sl languages represented on the map and characterized earlier in this section. But they were suppressed and obliterated in the processes by which the Sl languages as we know them were formed. In this sense the picture we reconstruct is incomplete and can hardly be made more complete. Yet it is important to reconstruct the general character of Sl after the dismemberment of CS and to understand that it was first of all characterized by lack of uniformity and stability, even in the boundaries of its sections.

3. Slavic and Baltic. A summary of CS and immediately following Sl phonetic and phonemic developments would be incomplete if considered in isolation. The Slavs of the time had contacts, at times very intense with non-Sl peoples and tribes. With some of them they lived for a time in the same territory. It would be strange if there were no traces of these contacts in Sl.

The most discussed and most disputed subject probably is that of Sl-Balt language relationships. Many striking coincidences in minor details have been collected to prove what has been called "Balt-Sl linguistic unity", "Common Balto-Slavic", etc.: e.g. in numerals: OCS *osmъ* 'eighth' as compared with Li *ãšmas*, OPr *asmas* vs. Gr ὄγδοος, La *octāvus*; or OCS *devętь* 'nine' as compared with Le *deviņi*, Li *devynì* vs. OI *náva*, La *novem* (but also OPr *newīnts* 'ninth'); or such a peculiarity as the use of the full grade in vowel alternations before secondary suffixes, where other IE languages have zero grade, e.g., Br *Babrújka*, river-name, as compared with Li *Vidáuja*, place-name. Yet these coincidences in detail may be outweighed by a series of no less striking discrepancies. In any case, they are mostly inconclusive as to the time of a Balto-Sl unity, if there ever was any. No more conclusive are attempts at finding the similarity or even identity of an abstract Balto-Sl language pattern without much reference to chronology.

A comparison of sound changes in conjunction with constant attention to their chronology seems to provide more solid information. The simple fact is that of the five periods in the history of CS, all developments of the first period (ca. 2000–1500 B.C.) were shared by Sl and Balt, whereas the developments of later periods were not. Like Sl, Balt lost aspirated stops and labiovelars; simplified its consonantal clusters stop + spirant (*ps*, *ts*. See 13, 2); and split its syllabic sonants into *i*S and *u*S groups with – if one disregards very few differences – identical distribution of the two; the same two intonations, RP and FP, arose on long vowels in Balt and Sl; Balt like Sl lost word-final *r*. True, some of these developments occurred in a broader area, but the twofold treatments of syllabic sonants and the rise of phonemic pitch are Balto-Sl only.

This removes any doubt that in its first period CS did not sever its ties with Balt. Their development was in common.

The situation is not the same in the second period of mutations in CS. Balt

at that time was not completely isolated from Sl but the bond was obviously quite loose. The two most important Sl sound changes of the period reached Balt only in much weakened repercussions: Balt did not develop *x* from *s* after *k*, *r*, *u*, *i* as Sl did. In Balt, *s* changed (into *š*) only after *k* and *r*; and not in the whole Balt but – as we know it now – in Li alone (See 7, 2). The second most characteristic sound change of CS at that time, the coalescence of *o* and *a* in *ₒa*, is represented in Balt only in the case of short vowels (See 10, 2). Fortunatov's law in Sl only remotely recalls de Saussure's law in Li (See, 4, 15).

There are no common developments in Sl and Balt in later time except for a minor coincidence in the loss of final *-t*, a change which easily could and probably did occur independently.

At the end of the prehistory of Sl, beginning about the seventh century A.D. there were new developments which Sl possibly shared with a part of Balt, i.e. Le. Like Sl, Le has a change of *k*, *g* into *c*, *ʒ* before front vowels, which in Sl is known as the second palatalization of velars; Le changed *ŏ* into *a* (which the adjacent Sl dialects did only in unstressed position); and it denasalized its *an*-groups before consonants into *uo* (later *o*), as ESl did with its *ǫ* > *u*, e.g. Le *acis* 'eye', nom pl. vs. Li *ãkys*, cf. Br *óčy*; Le *dzẽrve* 'crane' vs. Li *gérvė*, cf. Br *žuravél'*; Le *loks* (*lùoks*) 'arch' vs. Li *lañkas* 'hoop, ring', cf. OCS *lǫkъ* 'bow'. On the other hand, Balt *tl*, *dl* > *kl*, *gl* spread from Le to the adjacent Pskov-area dialects of ESl (See 25, 2). The exact chronology of these changes in Le is unknown; it is established only that in the thirteenth century Le had these reflexes. Nothing precludes assigning them to an older period. If so, they emerged during new contacts between Latvians and Slavs who had penetrated to the areas of Pskov and Novgorod.

There is one more change which Le apparently shares with Sl: the change of *sj*, *zj* into *š*, *ž*, respectively. But in Sl it was rather an alteration of an earlier date. In Le it falls into the context of other changes of *j*-clusters, which do not coincide with those in Sl (e.g., *tj*, *dj* > *š*, *ž*). It must be inferred that the two changes, in Le and in Sl, were independent.

Thus, on the basis of phonetic developments, four periods in Balto-Sl linguistic relationships can be established:

1) Identical developments, ca. 2000–1500 B.C.

2) Period of loose contacts: only a few Sl developments are reflected in Balt and only in greatly weakened form. The latest of these fall in approximately the sixth and fifth centuries B.C.

3) Period of no established contacts. From the fifth century B.C. until approximately the sixth – seventh centuries A.D.

4) Weak (E)Sl-Le common developments due to contacts of Slavs with Latvians in Pskov area.

4. Slavic and Iranian. For nearly a millenium (seventh century B. C. – second century A.D.) Irn tribes bordered on Sl territory in the south. It is unknown whether some Sl tribes depended politically on the Scythians and

Sarmatians. Iranians could have participated with the Slavs in the later migrations (under Go and later Hunnic hegemony). The common Sl and Irn vocabulary in religious and spiritual fields is striking, even though many details are uncertain. Among the place-names of the Ukraine and Southern Russia not only are there many of Irn origin, such as R *Don*, river-name (Av *dānu-* 'river', Osset *don* 'river, water'); U *Zhar*, a tributary of the Buh (Av *γžāra-* 'flow'), but there are numerous loan translations, such as R *Čërnoe more* 'Black Sea' (Av *aχšaēna-* 'dark'), U *Velýkyj Luh* 'area of the Dnieper rapids', loan translation from OIrn **vourustāna* 'wide place' – cf. Gr Βορυσθένης 'Dnieper'. Sl tribal names of Irn origin are also important: SC *hr̀vāt* 'Croat' (OIrn **(fšu-)haurvatā* 'herdsman'); Gr Ἄνται '(a group of) the Slavs' – cf. OI *ánta-* 'border' (if not of Tu origin). Many Sl personal names also have exact parallels in Irn, such as *Bogu-xvalъ* – Scythian *Baga-farna*, etc.

Deep interpenetration of Sl and Irn components is also attested by certain formal components of Sl which it shares with Irn (or Indo-Irn) alone, such as the prepositions (OCS) *kъ* 'to' (Irn *kąm*) and *radi* 'for sake of' (OPers *rādiy*), the prefix *raz-* 'asunder' (< **ord-z*, cf. Osset *ärdäg* 'half'), and expansion of the suffixes *-ogo-*, *-oko-* (e.g. *Svarogъ*, a pagan god's name).

With this evidence one might expect certain similarities in the phonetic developments of Sl and (N)Irn. This is not easy to establish because little is known about the phonetic and phonemic structure of Scythian and Sarmatian, the languages of those Irn tribes which were in direct and immediate contact with the Slavs: only a few personal names in Gr inscriptions and records are extant. Ossetian, the language which to a certain degree continues the Irn dialects north of the Black Sea, is known only in its modern form, i.e. after a lapse of almost two millenia, while OIrn as attested in Av and OPers is based on quite different dialects.

Despite these difficulties, a comparison shows that Sl shared several phonetic developments with Irn, especially in that period of the history of CS which was labeled in section 1 as third, a second period of (minor) mutations. This was the period around the sixth – fifth century B.C., i.e. a time of Sl-Irn contacts.

Among older sound changes Sl shared with Irn the loss of aspirated voiced stops and of labiovelars. This is not very important for these alterations were not limited to Sl and Irn. It is noteworthy, however, that in the case of the aspirated consonants Irn followed the same path as Sl and not that of OI, although otherwise Irn was most closely connected with the latter.

The most important similar developments were, as mentioned, of later date: both Sl and Irn developed *x* from *k*, and both changed *s* after *k*, *r*, *u*, *i* (in Sl it became *x*, in Irn *š*). As pointed out in 8, 2, the two alterations were not identical, so that there are important differences in details. Moreover, in Irn this was a link in a series of changes which affected many consonants in this position: it was in harmony with an Irn tendency of the time to differentiate its system of consonants. A new series of spirants (*f*, θ, γ) arose along with *x*, as well as a series of hushing consonants (*č*, *ǰ*, *š*, *ž*). Sl of that time was gen-

erally developing toward a "vocalic" type of language, reducing the number of consonants and the number of relevant oppositions among them. The rise of *x* was motivated within Sl only to a limited extent (in the subsystem of consonants but not in the system of the language as a whole). It is no accident that *š* developed in more positions in Irn than *x* did in Sl. With all these facts in mind, one is led to speculate that the change of *s* into *x* in Sl could have arisen under Irn impact.

Two other CS sound changes of the time also parallel features found in Irn: the loss of palatovelars and the loss of geminated consonants[3]. The outcome of the loss of palatovelars was identical in CS and Irn: *k'* yielded *s*, and *g'* changed into *z* (See 9, 2), although in Irn these reflexes were positionally determined. If the assumption of penultimate stress in CS and Irn of the period is correct (See 4, 14) and if it applies to NIrn, this was one more feature in common.

It would be tempting to find a similarity in the structure of vowels in th two languages. CS of that time developed vowels with rising sonority, occa sionally differing qualitatively in their on-glide and core, as in the case ($_{o}a$, $_{e}a$. However, in Irn as it is available to us there are no traces of this vow structure. Of course, one cannot expect the records to reveal the structure vowels directly, but this structure usually leads to the development of p thetic consonants of *u̯* or *i̯*-type. Irn does not have any prothesis of this ki It had only prothetic vowels *i-* and *u-* before *r-*, a phenomenon which is ir evant to our problem. Thus the specific Sl structure of vowels seems to l resulted merely from internal Sl development.

The same must be said about the monophthongization of diphthongs. ' ə Av kept them as such (*ao* ~ *əu* continuing IE *au* and *ou*, *aē* ~ *ōi* conti g IE *ai* and *oi*), in the eastern group of the Irn dialects north of the Bla a (dialects of the Sarmatians ?) *ai* seems to have changed into *e*; and Os as *o* ~ *ū* < *au*, *ī* ~ *e* < *ai*. These reflexes are identical with or close to the əs. Nevertheless there is no connection between the Sl and NIrn develo ts. The NIrn development is attested in Gr inscriptions from the cities of the Black Sea in the second and third centuries A.D.; the Sl dev ent occurred about half a millenium later.

Two more Osset sound changes recall the phonetic developments of the late CS: coalescence of *ŭ* and *ĭ* into *ə* (*y*) and EOsset (Iron dialect) palatalization of velars into hushing consonants before front vowels. Unfortunately, the chronology of these changes in Osset is not established.

A typical feature of OI but to a certain extent of OIrn as well was a tendency to substitute *r* for *l*. Irn later reintroduced *l* (cf. in Irn dialects north of the Black Sea the change of *fri-* into *fli-*). There are a few examples of confusion between *r* and *l* in Sl:

r superseded *l* in (R) *rys'* 'lynx', etc., if cognate of Li *lúšis*, Le *lūsis*, Gr λύγξ, OHG *luhs* (For anothere etymology see 8,6);

[3] To judge by Av, OIrn did not have geminated consonants. Mo Osset has them frequently, but they are due to later simplifications of consonantal clusters.

in other instances Sl has *l*, whereas *r* is found in Balt:
OCS *gladъ* 'hunger' – Li *gardùs* 'tasty';
OCS *glasъ* 'voice' – Li *gar̃sas* 'sound'.

It is possible that these sporadic deviations from normal Sl developments arose in Sl-Irn contacts, but they are too few to be conclusive; and other explanations are possible, e.g. for *rys'* a blending with the root **reudʻ-* 'red' prompted by taboo motivations. In any event these instances would at best indicate Sl-Irn language contacts but not common development.

To summarize, the tendencies of development in CS and OIrn were too different to permit a real convergence in their phonological evolution. In some phenomena, however, they carried out identical changes, which proves their close contacts: treatment of palatovelars, of geminated consonants, partially of *s* after *k*, *r*, *u*, *i*, and possibly fixation of stress.

5. Slavic and Germanic. Sl-Germ contacts began later than Sl-Irn but they soon gained more intensity. After the settlement of the Goths at the estuary of the Vistula, more and more of the Slavs came under the sway of the militant Germ tribe. When by 200 A.D. the Goths had penetrated the littoral of the Black Sea most, if not all Slavs found themselves in the new empire. Sl-Germ contacts weakened but probably never ceased after the empire's collapse in 370 – 75, and with the penetration of the Slavs to the Elbe, Bohemia and the Balkans the intensity of these contacts began to increase again.

While reflected in a fairly large number of loan words from Germ, these contacts left only a minor imprint on the phonological development of Sl. There are hardly any developments which Sl shared with Germ. If there is apparent similarity in a few, more thorough analysis shows that as a rule they belong to different times or were brought about by different factors, which means that they were not really identical. Of those resembling each other, one seems to have been common: the change of the consonantal cluster *sr* into *str*, e.g. OCS *sestra* 'sister', Go *swistar* vs. Li *sesuõ*, gen *seser̃s*[4]. This change, however, belongs to a time when the Slavs had no direct contact with the Germ. Both languages share it with Ill, and the Illyrians should have been situated between the two (See section 6). The whole development is rather dialectal IE, of the period when CS was only beginning to take shape.

In other sound changes not even such indirect bonds can be found:

a) Like Sl, Germ had *x*. Yet the origin of this consonant is different, and so is the chronology of its emergence. In Sl *x* arose from *s* in certain phonetic environments, and probably from *kʻ*, as well. The main source of Germ *x* is IE *k* (and *k'*) and although it also represents IE *kʻ* it does so in common with *k*, as a link in a general shift of IE unvoiced stops into spirants: *k* (including *k'* and *kʻ*), *t*, *p* > *x*, *þ*, *f*. The time of this first *Lautverschiebung* in Germ is debatable, the most plausible chronology being between about 400 B.C. and

[4] The isogloss of this phenomenon cuts Balt into two parts: Le and OPr also have *str* (OPr *swestro*), while Li remains conservative.

the beginning of Christian era. If so, Germ *x* developed later than its Sl counterpart. Furthermore, *x* did not last long in Germ. As early as the time of intensive Germ – Rom contacts, Germ *x* changed into *h* (both are rendered as *x* in Sl loan words from Germ).

b) Like Sl, Germ abolished the distinction between *o* and *a*. But in Sl *o* and *a* coalesced into *ₒa* and remained *ₒa* for a long period of time, from about the sixth century B.C. to the mid-ninth century A.D. when *ŏ* and *ā* arose from the split of *ₒa*. There are no traces of *ₒa* in Germ, nor are there traces of any vowel of this structure, and obviously quite early *ŏ* and *ă* coalesced into simple *ă*, while *ō* and *ā* coalesced into *ō*, i.e. they produced the results opposite to those in Sl. The very conditions under which the Sl and Germ alterations arose were different. In Sl the merger resulted from an excessive increase in the number of vowel phonemes, a consequence of the rise of phonemic pitch; in Germ it followed from the wealth of its consonantal system. Germ tended to broaden short vowels and narrow long ones, a tendency unobserved in CS.

c) CS eliminated gemination in its consonants. EGerm had less gemination than WGerm, viz. EGerm did not develop gemination before *j*, *r*, *l*, *n* when the syllable boundary was shifted: Go *akrs* 'field' vs. OS *ackar*. Yet otherwise all Germ languages, EGerm included, abounded in geminated consonants, and Go alteration of *jj* into *ddj*, *ww* into *ggw* is usually considered one of its peculiarities (Go *twaddjē* 'two', gen; *triggws* 'faithful'). In one case the development is the same as in Sl: *ts* > *ss* > *s* (OS *wīsōn* cf. OI *vivitsāmi* 'wish to see'). Yet, unlike the situation in Sl the geminated *ss* was preserved, even in this case, after short vowels.

d) Germ proceeded to a fixed stress, as supposedly CS did at a certain time. But in Germ this occurred much later, at the beginning of the Christian era, when Sl again had mobile stress, as reintroduced by the laws of Hirt and Fortunatov and by subsequent partial stress shifts. Moreover, the fixed stress in Germ was initial, which certainly was not the case in CS.

e) Some similarity is observed in Sl and Germ developments of the diphthongs *eu*, *ei*, *au*, and *ai*. The diphthong *eu* became *ju* in Sl. In Go, it is represented as *iu* in Ulfila's Bible and so cannot be later than the fourth century. However, La *Teutones* 'Teutons' (Go *þiuda*) proves that the change *eu* > *iu* (found also in NGerm and OHG) is not prehistoric. The change *ei* > *ī*, so represented in all the Germ languages could date from an older period. As for monophthongization of other diphthongs, they took place later and characterized primarily OS. It is in OS that *au* yielded *ō*, and *ai*, *ē* (both by the ninth century), recalling the Sl changes *ₒau* > u_2 and *ₒai* > *ě*; the same occurred in OHG in the seventh – eighth centuries but only before certain consonants (*ai* before *r*, *w*, *h*; *au* before dentals and *h*). Chronologically, therefore, the Germ developments roughly coincided with the Sl ones for *ai* and *au*-diphthongs (sixth – seventh centuries in Sl).

However, the elimination of diphthongs never was as sweeping in Germ as in Sl. In general, Germ tended rather to preserve its diphthongs. The diph-

thong *eu* monophthongized into *ju* in Sl and, with the merger of *j* with preceding consonant, any trace of the diphthong as such was obliterated. In Germ *iu* remained a diphthong [i_u], simply with a different composition from that of *eu*. The monophthongization of *ei* in Germ was due to the general change *e* > *i*, which made both components of the diphthong identical. Finally, as mentioned, *ai* and *au* monophthongized outside of OS only in specific consonantal evironments. Although in the latter case the possibility of certain Sl-Germ ties cannot be completely discarded, their probability is rather low. No parallel development in the treatment of diphthongs can be found for the time of Sl-Go contacts.

f) Germ was subject to certain laws of vowel harmony in a given word. Some of them known by the term "breaking" belong to prehistoric times: the presence of a non-front vowel in a syllable precluded the use of a front vowel in the preceding syllable. However Go, geographically closest to the Slavs, did not have this type of breaking. The later *umlaut* of *a* (sixth – twelfth centuries), *u* (ninth – eleventh centuries) and *o* (after 1100) into more front and higher vowels was caused by *i* in the next syllable. These mutations recall certain tendencies toward word vowel harmony in Sl, analyzed in 23, 15. Yet in Sl these changes never acquired any status of regularity, and so the Germ-Sl interpenetration, if any, was insignificant.

The conclusion to be drawn from this brief survey is that if there are certain coincidences in the phonetic development of Sl and Germ they can be assigned only to the period after the sixth century, and even then they are insignificant or dubious. Sl-Go contacts did not affect the phonology of the two languages at all[5], unlike Sl-Irn or, in particular, Sl-Rm contacts. The reason for this might be sought in social relationships (The Go conquerors possibly shunned association with the Slavs), but purely linguistic factors were also unfavorable to the interpenetration of phonetic changes. The two phonetic and phonemic systems were governed by such different tendencies that they might seem virtually impervious to one another. CS of the time was a language of weak stress, well developed pitch distinctions and an abundance of vowels; it was eliminating consonantal clusters. Go (and Germ in general) was a language with strong stress and reduction of unstressed syllables, a language which shifted its consonants but did not lose any opposition in the plethora of consonants inherited from IE, and had a wide range of geminations in consonants and of diphthongs in vowels.

Of course, such differences in language structure do not absolutely prevent common developments (See section 7), but they are unfavorable to such developments unless resistance in language is broken by strong extra-linguistic factors such as constant association over a common territory. This was obviously not the case between Sl and Go, and that is why Sl, which was open to Go influences in its vocabulary, was so closed to them in its phonology.

[5] Coincidences in such minor details as metathesis in Sl (OCS) *kamy* 'stone' and OHG *hamar* 'hammer', compared with Li *akmuõ* 'stone', OI *áśman*, Gr. ἄκμον (See 27, 8) are either accidental or go back to the time of IE dialects.

6. A note on Slavic in relation to contiguous extinct IE languages. In the early period of its existence CS bordered in the west on territories where Ill and Daco-Thra were spoken[6].

The Illyrians are supposed to have lived originally in the basin of the Vistula and in neighboring areas. If so, they left their settlements and moved south about 1200 B.C. Their traces are sought in Bohemia; later the Illyrians are found in Pannonia and on all three sides of the Adriatic Sea. Their language survived longest in Dalmatia (and Apulia) and left some imprint on Alb.

The Slavs were southeastern neighbors of the Illyrians before the migration of the latter. Little that is certain is known about the Ill language, but from what is known one perceives that certain early CS sound changes were parallelled in Ill: in Ill *tt* changed into *st*, *sr* into *str*, and aspiration was lost in the IE aspirated stops. As the chronology of these alterations is not established it is impossible to say whether they were developments in common with Sl or were coincidences in the final outcome of processes of various times and motivations. Otherwise Ill differs from Sl in certain very early changes, e.g. Ill had *ul*/*ol*, *ur*/*or* from *l̥* and *r̥*, *a*N from N̥, and reflected palatovelars as velar stops, unlike Sl, in which dental spirants substituted for palatovelars. Ill could have been an intermediary between Sl and Germ in case of *str* from *sr* (See section 5). Later, during their incursions into the Balkan Peninsula, the Slavs encountered remnants of the Illyrians in Pannonia, Istria and Dalmatia, but these were hardly influential at the time.

The Thracians, in the broad sense of the term, lived south of the Slavs in the Carpathians (whose name is probably of Thra origin) and populated what are now Romania, Bulgaria, Macedonia, Northern Greece, and European Turkey. Possibly they extended to the Don for a time. At present, a distinction is found between the Dacians in the northern and western part of the area and the Thracians proper in Southern Bulgaria and the European part of Turkey (V. Georgiev). Linguistically, however, Sl is closer to Thra proper than to Dacian. There is a possibility that the Dacians appeared in their area later, thus separating the Slavs from the Thracians proper. The last records of Thra were made as late as the sixth century A.D., which implies that some Sl-Thra contact was possible in the Balkans at that time. But Thra of the time was dying out and most speakers were Romanicized. Mo Alb may be considered a remote continuation of Thra (Dacian).

Thra is known, like Ill, from scanty (though more numerous) fragments. The character of its phonetic development has been reconstructed primarily in the studies of Tomaschek and Dečev. This development is supposed to have involved certain features completely alien to Sl, such as a consonantal shift recalling the Germ *Lautverschiebung* (as a result of which aspirated voiced stops lost their aspiration, so that *b*ʻ, *d*ʻ, *g*ʻ, etc. > *b*, *d*, *g*, etc., as in Sl), acceptance of geminated consonants, preservation of diphthongs, preservation of *ō* as *ọ* (closed *o*), and early loss of length in vowels. On the other hand, Thra had some developments completely or partially identical with CS in its early period: *sr* > *str*, *tt* > *st*, *r̥*, *l̥* > *ir*/*ur*, *il*/*ul* (but distributed differently; and N̥ > *a*N), spirants (*s* and θ, *z* and ð) in place of IE palatovelars, *ŏ* > *ă* ($_{o}a$?). In its later period Thra underwent sev-

[6] Attempts have also been made to establish Sl-To contacts, but neither historical nor linguistic evidence confirms this assumption. The typical To sound changes (palatalization of dentals before front vowels, colescence of voiced, aspirated voiced and voiceless stops into voiceless stops so that, e. g., *b*, *b*ʻ, *p* coalesced into *p*, strong reduction of unstressed vowels) have no parallels in CS of the time. Only if, as is supposed, To had fixed stress on penultimate syllables was this development possibly shared with CS, but then this was a phenomenon of a broader area. To be sure, To is known only from the fifth century A. D., i. e., much later than its alleged bonds with Sl were severed; but if it really had developments in common with Sl previously, one would expect more traces of them.

eral changes of consonantal clusters strikingly similar to Sl, though not identical: *kj* (and also *k* before *i*) > *c*; *d*, *t* > *ʒ*, *c* before *i*; *pt* > *tt* > *t*; *kt* > *t* (but also θ); *ts* > *ss*. For Dacian especially, the change *ě* > *ă* ~ $_e$*ă* is quite plausible and could have been a factor in the change of Sl (and Rm) *ě* into $_e$*ă*.

As with Ill, since we know neither the chronology of Thra sound changes nor their motivations there can be no certainty whether these developments were directly connected with the corresponding Sl changes or were accidentally similar results of processes which were carried out independently.

7. Slavic and Romance. Prior to their incursion and settlement in the Balkan Peninsula the Slavs had no contact with a Romance speaking population substantial enough to influence the phonological evolution of Sl. Later, however, i.e. after the fifth – sixth centuries A.D., the bonds of Sl with Rm, basically the only continuation of Eastern Romance (Dalmatian, limited to a small area, can be disregarded in characterizing the CS situation), became stronger than with any other non-Sl language previously. The intimacy of these ties and their historical background were characterized in 10, 9 and 11, 7. Briefly, the reasons for far-reaching reciprocal influence were the coterritoriality of Sl and Rom in the Balkan Peninsula over several centuries and, as a consequence of this, the presumed bilinguality of many speakers.

This resulted in certain innovations introduced into Rm under Sl influence (but accommodated to the system of Rm) and in certain common developments. The most important of the former are the rise of $_o$*a* and $_e$*a* (See 10, 9; 11, 7) and possibly elimination of the gemination of consonants (See 12, 4). The common alterations comprised certain changes in *j*-clusters (*sj* > *š*; *kj*, *tj* > *č* ~ *c*; *dj* > *ž* ~ *z*; palatalized *l*, *n*, *r* from *lj*, *nj*, *rj*. See 14, 6), loss of final *-s* (See 15, 4), and quite probably the first palatalization of velars (See 17, 3); at a later time the loss of *ŭ* and *ĭ* in certain positions, especially word final (See 29, 12). One more shared development, a tendency toward word vowel harmony, could have sprung from Tu contacts with both Sl and Rm (See 23, 7 and 35, 8). Nor were these ties with Sl broken later on; but then they took the shape primarily of Rm-Bg, and to a lesser extent Rm – Serbian and Rm – U mutual influences, a subject which does not enter into the scope of this book.

Despite the closeness of Rm and Sl phonological developments they did not destroy the individuality of Rm. In fact, Rm accepted only those Sl features which fitted into its own framework. It remained a language with dynamic stress, tolerated closed syllables and had no aversion to diphthongs. Some minor details disregarded, Rm had those phonetic and phonemic developments common with Sl, which led toward syllable and word harmony. On the other hand, Rm at the time under consideration did not essentially sidetrack any of the basic tendencies of Sl. If there were discrepancies and conflicts in Sl between the trend toward consistently "vocalic" and consistently "consonantal" types of language they were due to internal reasons and not to any Rm impact. Sufficient proof for this statement is the fact that this conflict is found everywhere in the Sl languages of the time, not only in the Balkans where there were strong ties with the Proto-Rm population.

8. Slavic and Turkic (Altaic). Problems of Sl-Tu contacts are insufficiently studied. We do not know when the Slavs first came in contact with Tu tribes. A plausible assumption is that the tribes known as the Scythians encompassed under a ruling class of Irn background certain population groups which spoke some Alt language or languages. Nothing has so far been derived from this for an understanding of the history of CS.

The Slavs must certainly have become familiar with the peoples who spoke Alt at the time of the Hunnic invasion (370–75 A. D.) and Attila's reign. Tangible convergences with Tu in Sl phonological evolution can be found not sooner than in the fifth or sixth centuries. The most striking among these developments are those leading to intrasyllabic harmony. The first palatalization of velars has certain parallels in the Alt languages, though nowhere an exact model (See 17, 4); the phenomena of the first delabialization of rounded vowels continued this trend (See 18, 5). This tendency overflowed syllable boundaries and led toward word vowel harmony in the third palatalization of velars and certain assimilations of vowels within a word (See 23, 7 and 15). All this brought Sl closer to the principle of vowel harmony; yet this harmony never earmarked Sl, and from the very outset there was an important difference between the principle of vowel harmony in Alt and that in Sl. In Alt it is the initial syllable which determines the set of vowels in the following syllables (progressive harmony); in Sl, as in Germ, the principle always operates in the opposite direction: final vowels influenced preceding ones (regressive principle).

Alt influences may be suspected in certain other developments of CS and Sl: loss of *ǯ* (which changed into *ž*. See 17, 5); elimination of *u*-diphthongs (See 19, 7); rise of *y* (See 26, 5); reduction of *ŭ* and *ĭ* and compensatory lengthening in the preceding syllable (See 29, 13). An inquiry into such problems as prothetic *j* before front vowels or the difference between the results of the first and second palatalizations (hushing consonants in the first case, hissing consonants in the second) might possibly reveal certain contributing factors in the Tu languages. However, the necessary preliminary studies are lacking and the question must remain open.

It would also be interesting to see what Sl impact there was, if any, on the OAlt languages. However, no history of these languages has been written that might provide an established chronology and until this is done no conclusions can be drawn.

In general, while all comparisons of the history of CS with the histories of adjacent non-Sl peoples are conjectural this is even more the case for the Tu-speaking peoples. And yet there is at least one fact which prompts the student to search for Sl-Alt contacts: chronology. It is hardly accidental that all Sl developments reminiscent of Tu fall precisely in the period between the fifth and ninth centuries, when Sl-Tu political contacts were especially active and when Sl states were still in their infancy while Tu political bodies such as those of the Avars, Bulgars and Khazars were an important factor in the life of Eastern and Central Europe.

9. A note on Slavo-Fennic linguistic relationships. CS in the strict sense of the word, i.e., before the migrations of the Slavs, had no direct contacts with Fe. The Balt tribes which populated the upper reaches of the Dnieper, stretching in the east to the area of what now is the oblast of Moscow, separated the Slavs from the Fe population north of these Balt settlements. Only when the Sl settlers broke through this area and penetrated the territory north of the Upper Dnieper and also the basin of the Lower Oka, were the first direct contacts with some of the Fe tribes established. This probably happened in the seventh century A. D. Gradually some of the Fe tribes became completely Slavicized and their languages extinct, i.e. the *Merja*, *Muroma* and *Čudь* as they are called by the Kievan Primary Chr. the *Merja* situated in present-day Vladimir, Jaroslavl', Kostroma and eastern Kalinin and Moscow oblasts, the *Muroma* probably mainly in present-day Rjazan' oblast, and the *Čudь* in the neighborhood of Pskov and Novgorod. Some other Fe tribes dwindled substantially, such as the *Vodь* and *Vesь* of the Primary Chr (Votes and Veps), who lived south-southwest of present-day Leningrad and south of Lake Onega respectively. Modern Fi, Kar, Est, Cheremis and Mordvin continue the dialects of Fe tribes which were in contact with the Slavs at an early date.

Thus one cannot expect any Fe influences on CS as a whole. They could only have been late and confined to the northeastern Sl tribes. This is confirmed by the fact that Fe loan words are found only in the NSl languages. Yet the oldest of these borrowings are not limited to R alone but appear in P as well, as, e.g., R *pen'ká* 'hemp', P *pienka*, from OI *bhaŋgā* 'hemp' trough Fe mediation (with typical unvoicing of the initial consonant). These contacts belong to a time when CS had disintegrated but the Sl languages in the modern sense of the term had not yet taken shape.

Another UFe language, Hungarian, appeared in Sl surroundings still later, in the ninth century, when the dismemberment of CS was near completion. Therefore the influence of Hung was even more limited in scope. It can be found only in contiguous Sl languages, in particular Sk, Cz, Sn, and NSC. And yet, at least in accentuation certain parallels are found, e.g. possibly in some minor details of the Sl accentual pattern of the nom pl neut (See 33, 7).

Aside from vocabulary borrowings hardly any other interpenetration of Sl and UFe can be established for the period covered in this book, especially with regard to common phonological developments. The typical features posited for the UFe phonetic and phonemic structure of the time, i.e. fixed stress (usually initial), progressive palatal harmony of word vowels (*a* vs. *ä*, possibly *õ* vs. *e*), lack of opposition in voicing (in WFe) and in paltalization of consonants, absence of initial consonantal clusters, the so-called gradation of consonants (e.g. Fi *kukka* 'flower', but in a closed syllable *kukan*, acc sg), all of them alien to Sl, were preserved throughout the period in UFe and did not affect Sl; nor did Sl affect UFe at that time. There are only a few developments in the two language families which are reminiscent of each other, but any interconnection is very uncertain. Further study is needed on such prolems, of which three can be cited:

The loss of Sl final *jers* generally did not affect Fi, in which final *u* and *i* were not only continuously used but even added to borrowings from other languages, Sl included[7], e.g., Fi *tolkku* 'sense', from R *tolk*, where the *o* of the first syllable shows that the word was borrowed after the loss of *jers* in Sl. However, Est dropped final *u* after a long first syllable, and in Hung *-a* yielded *-u* and *-ä* yielded *-ü* ~ *-i* in the eleventh century, after which both were lost, recalling the rise and loss of *jers* in Sl. As for Fi, it apparently lost final vowels in certain trisyllabic and longer words but, if so, the chronology is uncertain.

The loss of *j-* before *i* in Cheremis and Hung, before front vowels in Mordvin and the loss of *w-* before labial vowels in Fi, Mordvin and often Cheremis resembles Sl, especially NESl developments.

Finally, *cokan'e* in NR is often traced back to Fe. Indeed, Fi does not have hushing consonants, but Proto-Fe did have them. In most cases they changed into *h*, as in Fi *hammas* 'tooth' borrowed from Balt, cf. Li *žam̃bas* 'a pointed thing'. In Mordvin and Hung, *č* yielded *š*, and in Cheremis dialectally *c* ~ *ć*. However, absence of hushing consonants and confusion of *č* and *c* were not common features of the Volga-Fe dialects and thus the chief reason for *cokan'e* in Sl was internal.

10. Motive forces in Common Slavic and early Slavic sound changes. As anticipated in 14,6, it follows from the presentation of Sl sound changes examined in this book that it was internal factors which played the most important part both in causing changes of certain features of Sl and in determining direction of these changes. External factors, first of all contacts with other peoples, especially under the conditions of bilinguality, could have exerted a strong influence but invariably only enhanced or accelerated what was prepared for by internal development. It may be ventured that, except for minor and insignificant changes, external factors could overcome the internal trends of phonetic and phonemic development only in languages which were in decline and faced their dissolution in the language which was able to influence them so strongly that they became diverted from their own trend of development. This was not the case of CS and early Sl as a whole, though possibly it could be observed later in those Sl languages which succumbed to German influence in Germany and Austria or to Gr influence in Greece. But there is no factual evidence about the way in which these languages disintegrated (except for Snc and, insufficiently, Pb) and in any case these problems are outside the chronological framework of this book.

After a summarizing survey of the influences exerted by external factors, as presented in sections 3–9 of this chapter, it is appropriate to outline major observations about internal factors in the history of CS and early Sl and the way in which they worked.

In the most general formulation it was most often a lack of balance in the phonemic system of the language that perpetrated sound changes. A sound

[7] Monosyllabic words ending in a consonant are rare in Fi.

change brought about by lack of harmony at one point of the system caused shifts in the system and the patching of one "hole" caused another "hole", i. e., a new vacancy, inconsistency or contradiction in the system. This required a new change and eventually was responsible for the permanency of changes. In periods of accelerated change there was a kind of jerking development, of rushing from one "hole" to be patched to another; in more quiet periods "holes" may have been retained for a long time as if the tailor felt that patching could be done at any time and it would never be too late.

An example of this interplay of restoration of balance in one part of the system and loss of balance in another is the rise of *x* and the palatovelars. Reducing the presentation to the directly affected part of the system, it may be said that the rise of *x* brought the subsystem of velars into harmony with the subsystem of dentals. The latter was

t *d*
s

the former had no spirant:

k *g*.

With the rise of *x* it took the shape

k *g*
x

precisely as in the dentals. The next change was that of palatovelars. It also had good reasons in the system: *k'* and *g'* were the only palatalized consonants in the system and, thus, were insufficiently integrated with it. The palatovelars changed into *s* and *z* respectively, thus solving the problem of palatalization. For a certain period of time the palatalization of consonants was eliminated from CS. With this change, however, the subsystem of dentals became

t *d*
s *z*

and thus again was not in harmony with the three-member subsystem of velars. *x* became a burden to the system, a problem that was transferred from CS to the individual Sl languages and still clogs the phonemic development in some of them. See 34,9.

This is thus an example of lack of balance in the system, its subsequent restoration, and new contradictions. But in this shape the formulation is very general and consequently vague. It can be broken down into more specific types of developments and their motivations so that more of the mechanism of the changes is revealed.

The best known cause for alterations is insufficient integration of a phoneme into the system. One of the main integrating principles of the Sl system of consonants was opposition in voicing; later, opposition in palatalization was added. If a phoneme was outside of one or both of these oppositions it was insufficiently integrated and the situation could be salvaged either by loss

of this phoneme or by development of its counterpart in voice or palatalization whichever was required. This was the situation of *x* after the rise of *z* in the dentals. Insufficient integration was also responsible for the loss of aspirated stops in CS: for the change of *ū* into *y*; and for metathesis or pleophony in groups of the CORC type.

A special instance within this type of changes is that of phonetic changes of a sound which do not create any changes in the phonemic system but merely bring the sound into the articulatory pattern of its immediate counterpart in the phonemic system. This is the case of *ĕ* changed into $_{e}\breve{a}$ after the change of *ŏ* and *ă* into $_{o}\bar{a}$; and later, when $_{o}a$ split into *ŏ* and *ā* again, at least short $_{e}a$ rapidly followed the trend and lost its complex character, becoming *e* or (dialectally) *o*.

This causation does not imply that the speakers had any conscious notions about the phonemic systems of their language. If, say, in a particular language at a particular time there is a general opposition of voiced vs. voiceless and there is a consonant *x* with no voiced counterpart this means that the speakers are, so to speak, articulatorily prepared for a voiced counterpart of *x* and there is no resistance by the phonemic system of the language and by the articulatory habits of its speakers to introducing it. This latent possibility can easily be materialized at the first opportunity. In fact, it often is materialized extraphonemically: because there are no impediments due to a possible rise of ambiguity, the speakers often pronounce *x* with voicing in certain phonetic contexts without even noticing it. The opposite trend, to drop *x*, can also be followed more easily than many other changes, because with its low number of oppositions *x* is freer to move in various directions than are many other consonants.

In the case of a poorly integrated phoneme, the linguist of today can predict that a sound change is pending. But he cannot predict whether the change will bring about the loss of the phoneme or its more perfect integration, and even less can he predict when the change will take place: immediately or centuries in the future. Above all, tendencies toward symmetry should not be overestimated. "Unsymmetrical" sounds may exist for centuries. This is, e. g., the case of *ě* ([i$_{e}$]) in LS where, unlike US, it has no *ô* ([u$_{o}$])-type counterpart: in R the Leka dialect, on the contrary, has *ô* but no *ê*, although, historically speaking, many dialects developed *ê* from *ě* and nothing precluded this in Leka[8].

Coming back to CS and early Sl: although changes conditioned by insufficient integration of certain phonemes in the system are well attested in the history of this language, their number is surprisingly small. The bulk of alterations came from another source: lack of balance between the system of vowels and the system of consonants, each taken as a whole. It was the growth of one which constantly caused a certain shrinking of the other and vice versa. By increasing the number of vocalic phonemes the rise of phonemic pitch brought

[8] However the tendency to lose *ô*, recorded by recent expeditions to the area can be considered not only as resulting from the pressure of standard R but also as arising from the internal requirements of the dialect.

about a drastic reduction in the number of consonants. The language was becoming more and more "vocalic". Gemination was eliminated and a great many consonantal clusters were abolished. A new increase in consonants when palatalized consonants (and the opposition in palatalization itself) were introduced triggered the loss of diphthongs and later the loss of *jers.*

Again, there is nothing enigmatic or mystical in changes of this kind. A wealth of vowels assures unambiguous delivery of messages even with a slipshod realization of consonants. Hence losses in clusters and even in consonantal phonemes follow. On the other hand, a wealth of consonants makes messages decipherable even if some vowels are "swallowed". As a result of careless production of vowels some of them undergo reduction and can be completely lost. A rearrangement of the phonemic system can easily ensue.

Specific articulatory tendencies in development arose from certain sound changes and remained operative for a certain period of time. For example, the loss of laryngeals was followed by a tendency to more front articulation. This was implemented by the shift of palatovelars *k'* and *g'* to *s'* and *z'*. The elimination of consonantal clusters and the rise of prothetic consonants were followed by a tendency toward syllables with a rising wave of sonority, which found realization in the monophthongization of diphthongs. The excessive increase in consonantal phonemes caused by the changes of *j*-clusters (*kj* > *č*, *sj* > *š*, etc.) generated a tendency toward intrasyllabic harmony: in a syllable subject to such a principle, palatalization of the consonant did not result in an independent phoneme. This tendency motivated the first and second palatalizations of velars and the first and partly second delabializations of rounded vowels. The tendency toward a "consonantal" language brought about by the rise of palatal and palatalized consonants led eventually to the elimination of *jers* and, dialectally, to the loss of phonemic pitch or pitch and quantity.

All of these "tendencies" on the articulatory and perhaps psychological level of a speaker were merely the carrying of a linguistic habit farther than it had been carried in the preceding generation. On the linguistic level, a tendency is understood in this book merely as a sequence of developments resulting in a particular effect (without fully achieving it from the point of view of the language as a whole), i. e. the term is used without any teleological implications.

Particularly important for shifts of trends in the historical phonology of CS and early Sl are those changes which produced effects opposite to the factors which caused them. Thus, the simplification of *j*-clusters caused by a tendency toward a "vocalic" type of language increased the number of consonantal phonemes and in its far-reaching effects arrested the very trend from which it had arisen. The effect of the second palatalization of velars was the same in this respect.

Thus lack of balance between the system of vowels and that of consonants was the mainspring in the phonological development of CS and early Sl. For methodology this means that no understanding of this development is possible if the two systems are treated in isolation.

This is also valid to a great extent for two other aspects and parts of CS and early Sl development: the accent system and the system of alternations, of vowels in the first instance and of consonants in the second. The rise of intonations and several subsequent rebuildings of the accent system of CS are most intimately connected with the entire history of the language. The alternations played a more limited role: in most cases they were more influenced by phonetic changes than vice versa. But the gradual decay of IE vowel alternations in CS still was an important factor in weakening cohesion within the system of vowels: and when in disintegrating CS short vowels were largely divorced from the long vowels by qualitative changes in the vowels (with only *ŏ* but no *ō*; *ā* but no *ă*; *ȳ* but no *y̆*; *ĭ* changed into ь and *ŭ* into ъ) the soil for this separation so fraught with consequences was prepared, though not exclusively, by the loss of any logic and consistency in vowel alternations of the time, i. e., by the almost complete atomization of the system of vowel alternations.

Thus, both accentology and the theory of alternations are inalienable parts of the historical phonology of CS and early Sl.

Purely phonetic factors played a subordinate part in the historical phonology of CS and early Sl. To be sure, complex sounds were often prone to elimination: aspirated stops were lost, and so were labiovelars and palatovelars; *ǯ* was replaced everywhere by an articulatorily simpler *ž*, and *ʒ* in many areas by *z*. On the other hand, however, palatalized consonants of complex articulation were introduced, and in many Sl languages *ǯ* and *ʒ* were reintroduced in keeping with the requirements of the phonemic system.

Generally, phonetic factors as a rule determined extraphonemic changes: development of prothetic consonants depended on the specific structure of vowels; dialectal simplification of *tl*, *dl* into *l*, as well as a great many other assimilations were phonetically conditioned. But no phonetically conditioned sound changes occurred in CS and early Sl in defiance of the phonemic system of the time and the logic of developments as determined by this system.

Affective factors were at work often, probably all the time. But again they determined major sound changes only where this was in agreement with phonemic trend. A typical example is the rise of *x*. In other cases affective factors were able to cause shifts only in individual words (instances of affective irregular palatalization, voicing, nasalization).

Thus the factors in the historical phonology of CS and early Sl which molded the development of this language were:

I. Main factors:

1 Interplay of the system of vocalic and consonantal phonemes and elimination of imbalance between them;

2 Elimination of vacancies in the phonemic system;

3. Interplay of basic and suprasegmental (prosodic) features of vocalic phonemes;

4 Interplay of the system of phonemes and the system of alternations.

II. Subordinate and subsidiary factors:

1 External factors: impact of other languages;
2 Phonetic factors: elimination of more complex articulations insofar as this was not impeded by the structure of the phonemic system:
3 Affective factors: extraphonemic shifts in individual words.

All in all, the history of CS and early Sl was shaped primarily, in its phonological aspect, by trends leading to a thoroughly balanced system and by inability to attain such a perfect system. The language was constantly a system in the making, never a system made, not even during periods of decelerated development.

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SYNOPSIS OF THE PRINCIPAL SOUND CHANGES IN COMMON SLAVIC AND EARLY SLAVIC

	Approximate chronology	Discussed in chapter
1. Loss of aspiration in stops: *b*‘, *d*‘, *g*‘, *ǵ*‘, $g^{w‘}$ > *b*, *d*, *g*, *g*’, g^{w}	2000–1500 B. C.	3
2. Loss of final *r*	2000–1500 B. C. or earlier	15
3. Rise of phonemic pitch: ′ vs. ̑	2000–1500 B. C.	4
4. Split of syllabic sonants: *r̥*, *l̥*, N̥ > *ir* ~ *ur*, *il* ~ *ul*, *i*N ~ *u*N	2000–1500 B. C.	5
5. Loss of labialization in labiovelars: k^{w}, g^{w} > *k*, *g*	2000–1500 B. C.	6
6. *tt* > *st*	2000–1500 B. C.	12
7. Rise of *x*: *k*‘, *s* > *x* (under certain conditions)	by 6–5th cent. B.C.	7
8. Clusters simplify: *pt* > *st*, *vr-*, *vl-* > *r-*, *l-*	After rise of *x*	13
9. Loss of palatovelars: *k*’, *g*’ > *s*, *z*	After rise of *x*	8
10. Coalescence of *o* and *a* into $_{o}a$; *e* > $_{e}a$	6–5th cent. B. C.	10, 11
11. Loss of final N after short vowels	before 1st cent. A.D.	15
12. Loss of gemination in consonants	by 2nd cent. A. D.	12
13. Loss of final *t*, *d*	beginning of Christian era	15
14. Loss of first stop in clusters stop + spirant, stop + stop	1–5th cent.	13
15. Prothetic consonants before *u-*, *i-*: *vu-*, *ji-*	1–5th cent.	16
16. Loss of *j*-clusters: *rj*, *lj*, *nj*, *kj*, *gj*, *xj*, *sj*, *zj* > *r*’, *l*’, *n*’, *č*, *ǯ*, *š*, *ž*; labials + *j* > labials + *l*’; *tj* > *ćć*, *dj* > *ʒ́ʒ́*	5–8th cent.	14
17. Loss of final *s*, *x*	6th century	15
18. Prothetic *j* before $_{e}a$- and probably *w*- before $_{o}a$-	6th century	16
19. First palatalization of velars: *k*, *g*, *x* > *č*, *ž*, *š*	5–6th cent.	17
20. First delabialization of rounded vowels: $_{o}a$, $_{o}\bar{a}$ > *e*, *ā*; *u* > *i*	6–7th cent.	18
21. Monophthongization of *u*-diphthonges: $_{o}au$ > $\bar{u}_2$, $_{e}au$ > $j\bar{u}_2$	6–7th cent.	19
22. Monophthongization of *i*-diphthongs: $_{o}ai$ > *ě*, $_{e}ai$ > *ī*	6–7th cent.	20
23. Second palatalization of velars: *k*, *g*, *x* > *c*’, *ʒ*’ (*z*’), *s*’/*š*	6–7th cent.	21
24. Rise of nasal vowels	7th cent.	22
25. Third palatalization of velars: *k*, *g*, *x* > *c*’, *ʒ*’ (*z*’), *s*’/*š*	7–mid-9th cent.	23
26. Labialization of $_{e}a$ before *v* + back vowel: $_{e}a$ > $_{o}a$	7–9th cent.	23

27. *tl, dl* > *l* (dialectally)	8–mid-9th cent.	25
28. Second delabialization of rounded vowels: $\bar{u}_1 > y$	8–9th cent.	26
29. Second delabialization of rounded vowels: ${}_o\bar{a} > \bar{a}$. Rise of $o < {}_o\breve{a}$	mid-9th cent.	26
30. Prothetic *j* before *ā*-	8–9th cent.	16
31. Metathesis in ORC groups	8–mid-9th cent.	27
32. Metathesis or pleophony in CORC groups	mid-9th cent.	27
33. Third delabialization of rounded vowels and rise of *jers*	early 9th cent.	29
34. Rise of *e* and (dialectally) new *o* ($< {}_e a$)	mid-9 – mid-10th cent.	28
35. Dialectal changes in C*ur*C, C*ul*C, C*ir*C, C*il*C groups	early 9 – early 10th cent.	29
36. Shortenings of long vowels (positional)	early 9 – early 10th cent.	32
37. Emergence of NRP	8–mid-9th cent.	33
38. Dialectal rise of overall palatalization of consonants before front vowels	9 – 11th cent.	31
39. Dialectal loss of intervocalic *j* and contractions of vowels	10th cent. and later	32
40. Loss of *jers*	10–mid-12th cent.	29

SYSTEMS OF CONSONANTAL PHONEMES IN THE MODERN SLAVIC LANGUAGES AND POLABIAN[1]

Russian

p – b	*p' – b'*	*t – d*		*t' – d'*			*k – g*
f – v	*f' – v'*	*s – z*		*s' – z'*	*š – ž*	(*š̄'*) – (*ž̄'*)	*x*
		c	(*c*)		*č*		
		l		*l'*	*j*		
		r		*r'*			
m	*m'*	*n*	(*n̄*)	*n'*			

Belorussian

p – b	*p' – b'*	*t – d*						*k – g*
f – v/w	*v'*	*s – z*		*s' – z'*	*s̄' – z̄'*	*š – ž*	*š̄ – ž̄*	*x – h*
		c	*c̄*	*c' – ʒ'*	*c̄' – ʒ̄'*	*č – ǯ*	*č̄ – ǯ̄*	
		l		*l'*	*l̄'*	*j*		
		r						
m	*m'*	*n*	*n̄*	*n'*	*n̄'*			

Ukrainian

p – b	*t – d*		*t' – d'*	*t̄' – d̄'*			*k – g*
f – v/w	*s – z*	*s̄*	*s' – z'*	*s̄' – z̄'*	*š – ž*	*š̄' – ž̄'*	*x – h*
	c ʒ		*c' – ʒ'*	*c̄'*	*č – ǯ*	*č̄'*	
	l		*l'*	*l̄'*	*j*	(*j̄*)	
	r		*r'*				
m	*n*	*n̄*	*n'*	*n̄'*			

Polish

p – b	(*p'*) – (*b'*)	*t – d*				*k' – g'*	*k – g*
f – v	(*f'*) – (*v'*)	*s – z*	*s̄*	*ś – ź*	*š – ž*		*x*
		c – ʒ		*ć – ʒ́*	*č*		
w		*l*		*j*			
		r					
m	(*m'*)	*n*	*n̄*	*ń*	*n̄́*		

[1]) Optional and mariginal phonemes are in parentheses. For systems of vowels see 34, 10. As the vowel systems there, systems (subsystems) of consonants here are presented not from the viewpoint of maximum economy but in order to facilitate comparison with their CS point of departure and comparison among themselves.

Lower Sorbian

p – b	p' – b'	t – d			k' – g'	k – g
(f)		s – z	ś – ź	š – ž		x – (h)
		c		(č) – (ǯ)		
w	w'	l		j		
		r	ŕ			
m	m'	n	ń			

Upper Sorbian

p – b	p' – b'	t – d			k – (g)
(f)		s – z		š – ž	x – h
		c	ć – ʒ́	č	
w	w'	l		j	
		r	ŕ		
m	m'	n	ń		

Slovak

p – b	t – d	t' – d'		k – (g)
f – v/w	s – z		š – ž	x – h
	c – ʒ		č – (ǯ)	
	l	l'	j	
	r			
m	n	ń		

Czech

p – b	t – d	t' – d'		k – (g)
f – v	s – z		š – ž	x – h
	c		č	
	l		j	
	r		ř	
m	n	ń		

Slovenian

p – b	t – d			k – g
f – v/w	s – z		š – ž	x
	c		č	
	l	(l')	j	
	r			
m	n	(n')		

Serbo-Croatian

p – b	t – d			k – g
f – v	s – z		š – ž	(x)
	c	ć – ʒ́	č – ǯ	
	l	l'	j	
	r			
m	n	n'		

Macedonian

p – b	*t – d*			*k' – g'*	*k – g*
f – v	*s – z*		*š – ž*		*(x)*
	c – ʒ		*č – ǯ*		
	l	*l'*	*j*		
	r				
m	*n*	*n'*			

Bulgarian

p – b		*p' – b'*	*t – d*	*t' – d'*		*k' – g'*	*k – g*
f – v	*(v̄)*	*v'*	*s – z*	*s' – z'*	*š – ž*		*x*
			c – (ʒ)	*c'*	*č – (ǯ)*		
			l	*l'*	*j*		
			r	*r'*			
m		*m'*	*n*	*n'*			

Polabian

p – b	*p' – b'*	*t – d*	*t' – d'*		*k' – g'*	*k – g*
f – v	*v'*	*s – z*	*s' – z'*		*x'*	*x*
		c – ʒ	*c' – ʒ'*			
		l	*l'*	*j*		
		r				
m	*m'*	*n*	*n'*			

WORDS

The index comprises those Slavic words which are treated specifically in the text but not those which are used as random examples. Words are cited in their Russian form unless not used in Russian or when a specific form in another Slavic language is discussed. Russian examples are unmarked.

The order of the index is according to the Roman alphabet but *v* and *w* are treated as one letter. Letters with diacritical marks follow regular letters and those with subscribed marks come third (Thus, for example *e* – *ė* – *ę*). *ь* follows *i* and *ъ*, *u*. Words in *x*- are to be found under *x* (languages with Cyrillic alphabet), *ch*- (included under *c*), and *h*- (Sn and SC).

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*) In order to be most usable, the index does not include subjects when they are mentioned only but not discussed. The modern Slavic languages are so frequently referred to in the text (virtually on every page) that their inclusion in the index would likewise serve no practical purpose.

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